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EXCAVATIONS AT TELL TABAN, HASSAKE, SYRIA (6): PRELIMINARY REPORT OF THE 2006 SEASON OF WORK

Hirotoshi NUMOTO*

Introduction

The Kokushikan University Archaeological Expedition (Director, Hirotoshi Numoto) conducted the 6th season of excavation at Tell Taban between August and September 2006. Tell Taban is located in the Hassake Dam Salvage area and has been excavated by the Kokushikan University Archaeological Mission since 1997 (Fig. 1)〔Ohnuma et al. 1999, 2000; Ohnuma and Numoto 2001; Numoto 2006, 2007〕.

The members of the Expedition were as follows: Hirotoshi Nimoto (Director, Archaeology, Kokushikan University), Hideaki Shibata (Civil Engineering, Kokushikan University), Isamu Ono (Architectural Engineering, Kokushikan University), Shigeo Yamada (Assyriology, University of Tsukuba), Daisuke Shibata (Assyriology, Postdoctoral Fellow of the Japan Society for the Promotion of Science), Nobuhiko Kitano (Conservation Science, Kurashiki Sakuyo University), Nozomu Ariga and Sanae Itoh (Students of Assyriology, University of Tsukuba).

The excavation was funded by the 2006 Japan Society for the Promotion of Science, Grants-in-Aid for Scientific Research, Category B Oversea Scientific Research (Group Leader: Hirotoshi Numoto) and the 2006 Ministry of Education, Culture, Sports, Science and Technology-Japan, Grants-in-Aid for Scientific Research on Priority Areas “Formation of Tribal Communities in the Bishri Mountains, Middle Euphrates” (Research Team “Integrated Research on the Assyrian Civilization

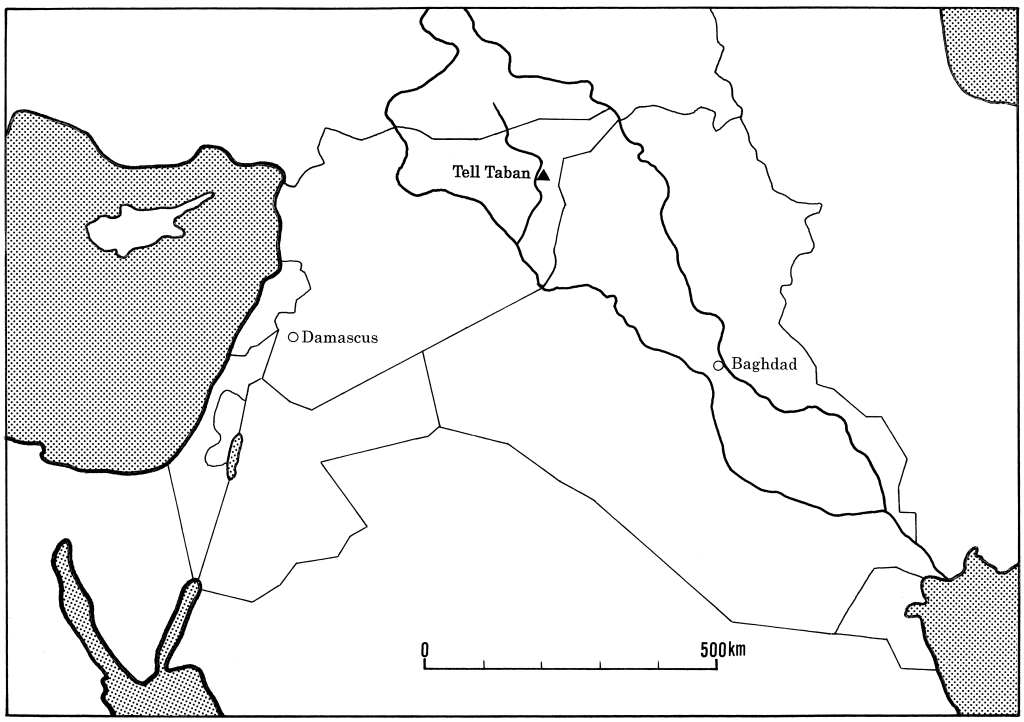

Fig. 1 Location of Tell Taban

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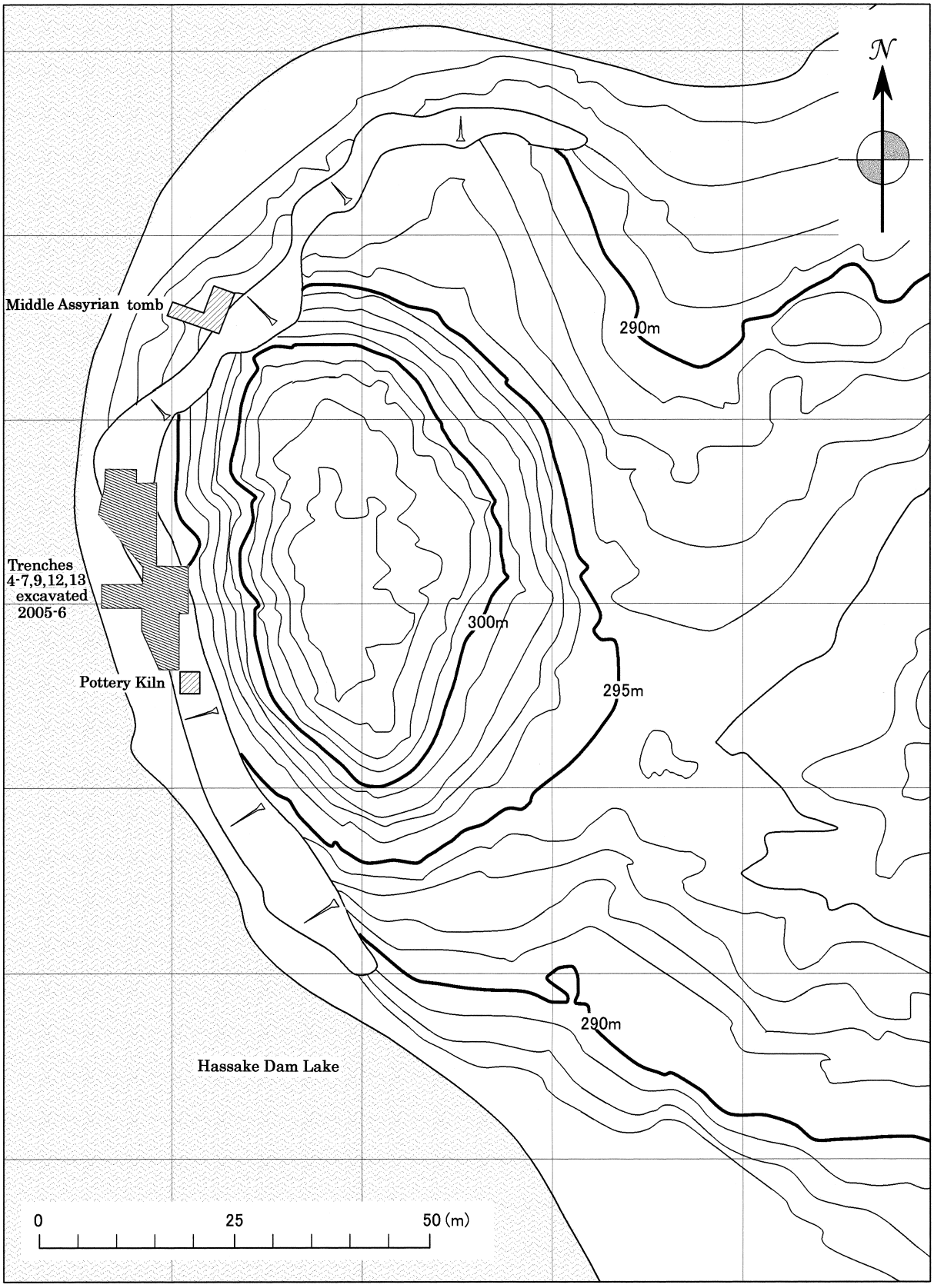

Fig. 2 Contour map of the western area of Tell Taban

in Northern Mesopotamia" Team Leader: Hirotoshi Numoto).

1. Summary of the 2006 Season

Since the Middle Khabur (Hassake) dam discharged water during the summer, the water level around Tell Taban was ca. 286.5 m above sea level at the beginning of the excavation. The water level continued to become lower during the excavation and it finally reached ca. 285 m above sea level by the end of September (Fig. 2, Pl. 7). The west side of the mound was eroded ca. 2 m than the condition we saw in 2005 due to the exposure to water during the winter when the dam water touch the west side〔Numoto 2007〕. Soil debris, which was eroded by river water, was accumulated on the edge of the mound and Trench 4 excavated in the previous season was totally backfilled by it. The edge of the mound where river water washed away the soil has revealed some new archaeological structures. We were able to collect 18 fragments of inscribed bricks from the area where river water receded. Around the shore near the pottery kiln which was excavated in the last season, we collected two inscribed brick fragments which bore a previously unfound name of the king. The fragments were found in fallen debris of the baked brick structure near the pottery kiln (Pl. 8a). The decipherment of the inscriptions revealed the king's name "Enlil-šar-ilani" who was the latest king of the Middle Assyrian Period at Tell Taban (Pl. 8b)[1]. This discovery strongly implies that the baked brick structure was this king's tomb.

The 2006 season was concentrated on 6 trenches (Trenches 8 to 13) at the western eroded side of the mound. Since this season's main result derives from the Old Babylonian pottery kiln in Trench 8 and the Middle Assyrian underground tomb in Trench 10, the following report will focus on the above two Trenches (Fig. 2).

2. Old Babylonian Pottery Kiln (Trench 8)

In this Trench, we continued our excavation on the pottery kiln which unearthed ten Old Babylonian clay tablets in 2005〔Numoto 2007〕. The pottery kiln was found on the cliff face ca. 8 m south of Trench 4 (Pl. 9). The previous season excavated the area of 2.5 m (north-south) × 1 m (east-west) in the mud-brick built pottery kiln (from the fire hole towards the back). In 2005 it was impossible to extend the excavated area since the cliff face was standing ca. 5 m high. In this season fortunately the cliff face was eroded by river water and the height was reduced to ca. 2 m which made possible for the further excavation inside the kiln (Pl. 10).

The excavation revealed that the kiln has a rectangular ground plan measuring 3 m (north-south) × 2 m (east-west) (Fig. 3; Pls. 6a, 19). The kiln wall was ca. 60-80 cm thick and made of mud-bricks. The maximum remaining height was ca. 1 m (Fig. 4), but the half of the north and south walls and the both sides of the east wall were destroyed by a pit of later period from the upper layer (Pls. 4a, 5a, 6a, 19).

A total of 14 clay tablets were discovered in a fill of the kiln (Fig. 3; Pls. 1~5, 11~19). Among these tablets noteworthy find was a tablet in an envelope (Pls. 1, 2). The specimen was unearthed around the kiln's north wall where the hard debris of the kiln wall (ca. 100 [length] × 60 [width] × 70 [thickness] cm) accumulated (Pls. 4, 13, 14). The tablet was complete (ca. 11.5 [length] × 6 [width] × 3 [thickness] cm) and the broken envelope covered one fourth of the tablet (Pls. 4, 14). Both tablet and envelope were well fired and had light brown colour (Pls. 1, 2, 4). After we joined the envelope with other collected fragments, around three fourth of the envelope was reconstructed (Pl. 1). Thus the remaining size of the envelope has become ca. 13 [length] × 7 [width] × 3.5 [thickness] cm. It is an important specimen to tell us the manufacturing method of the envelope and how the tablet fits into it. Directly beneath this tablet in an envelope, we found one third fragment of a large

1 According to Yamada, the inscription reads: "Belonging to Enlil-šar-ilani, son of Aššur-ketta-lešer, the king"

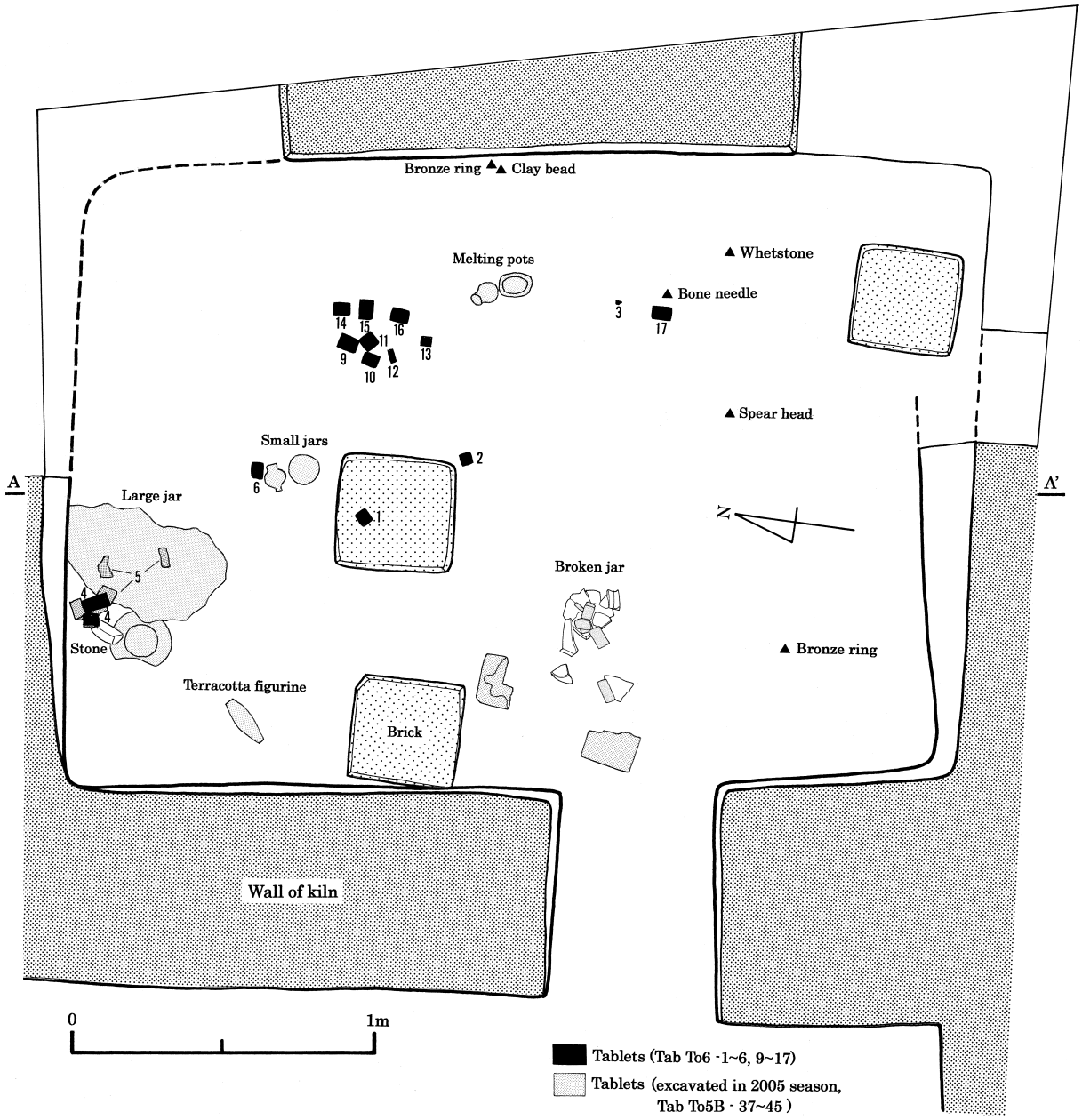

Fig. 3 Plan of the Old Babylonian pottery kiln

mouthed jar (Pls. 4a, 13a). This may imply that this tablet in an envelope was also stored in a jar like the tablets we found in the previous season〔Numoto 2007〕. Probably the tablets were stored in a jar and placed in a kiln to be fired for long storage. Other tablets had the size below 7 × 7 cm and seven of them were found in a cluster in a burnt layer (ca. 30 × 20 cm in area) just above the floor of the kiln (Pls. 5, 16, 17). This cluster of tablets may also be placed in a jar or a container to be fired in a kiln. The tablets of this cluster were generally dark brown in colour and were softer in fabric compared to the tablet in an envelope (Pl. 3). The decipherment of the contents of the tablets suggests that they can be dated to the Old Babylonian Period, more specifically the post-Hammurabi time.

Since, as mentioned above, the pottery kiln was poorly preserved due to a pit dug from the upper layer, the overall structure is unknown. It is important to mention that some artefacts, which include

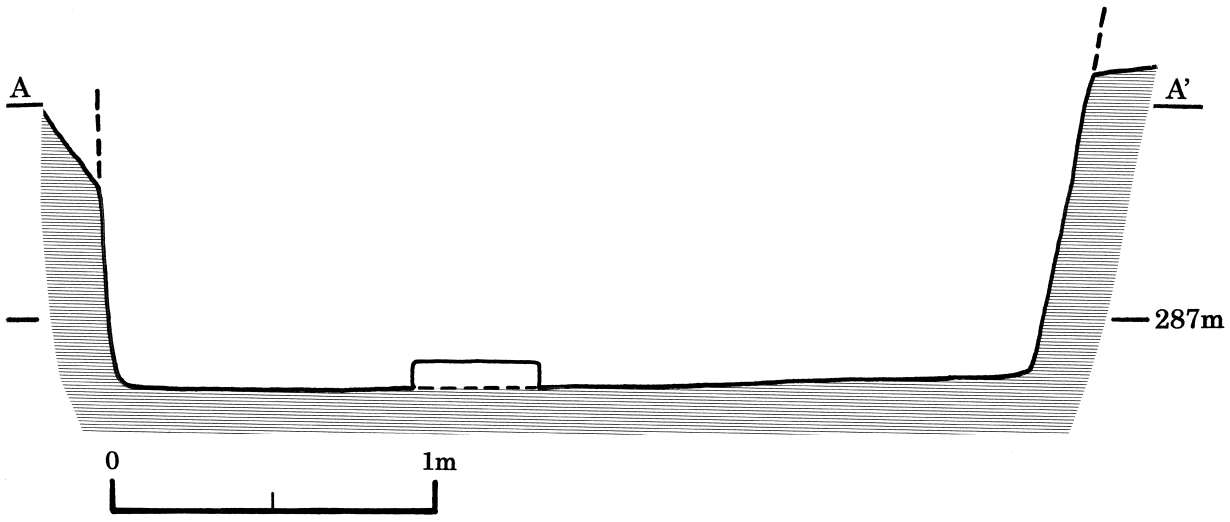

Fig. 4 Section (A-A') of the Old Babylonian pottery kiln

terracotta female figurine, bronze ring and spear head, clay bead, melting pots, whetstone, and millstone, were found from the floor of the kiln (Fig. 3; Pl. 20c, d). Considering the presence of such artefacts and the ground plan of the kiln, there was a small room (ca. 3 × 2 cm) before the kiln was constructed. We can assume that after the room was abandoned, it was transformed into a pottery kiln. When we excavated the area northeast of the kiln (Trench 12), a gypsum plaster container was placed to the north of the west wall of the kiln and part of the room, which had a floor with accumulated ash on it, was identified. This implies that the area of Trenches 8 and 12 was a contemporary workshop compound.

3. Middle Assyrian underground tomb (Grave 9 in Trench 10)

Part of a brick structure was identified near the edge of the mound where river water touches. The area was ca. 21 m north of Trench 7 and we set a trench (Trench 10) of 6 (north-south) × 5 (east-west) m in size to reveal the brick structure (Fig. 2; Pls. 21, 23).

Below the surface layer, three pottery kilns dated to the Neo-Assyrian Period were identified. Directly below these pottery kilns, we discovered a damaged underground baked brick tomb. Thus, the brick structure mentioned above turned out to be a large underground brick tomb (probably a tomb of the royal family) dated to the Middle Assyrian Period. The tomb was constructed by digging into the Old Babylonian Period layer and consisted of shaft entrance, gallery, and anterior and burial chambers. The shaft entrance, vaulted gallery, and anterior chamber were all in one line (east-west axis) and measured ca. 5 m. The burial chamber was orthogonally positioned (north-south axis) to the above mentioned structure group and measured ca. 6 (length) and 3 (width) m (Figs. 5, 6; Pls. 22, 24~29).

Similar type of brick tombs are reported from Assur, the capital of Assyrian Empire: the tomb of Middle Assyrian king, Assur-bel-kala, and the tombs of Neo-Assyrian kings, Assur-nasirpal II and Samshi-Adad V〔Haller 1954: 171〕.

The entrance of the tomb was constructed by brick-built vertical shaft (1.5 × 1.5 m) (Pls. 24, 25a). The remaining height of it was ca. 80 cm due to poor preservation (Fig. 6). The gallery measured ca. 2 m in length and ca. 1.5 m in width, and had a vaulted ceiling (Pls. 25b, 26a). The inner face of the gallery wall was badly damaged and the ceiling of the entrance has collapsed. The floor of the gallery was tilted towards the anterior chamber which measured ca. 1.4 [length] × 1.3 [width] × 1.2 [height] m and had a completely preserved vaulted ceiling (Pls. 26b, 27a). On the exterior

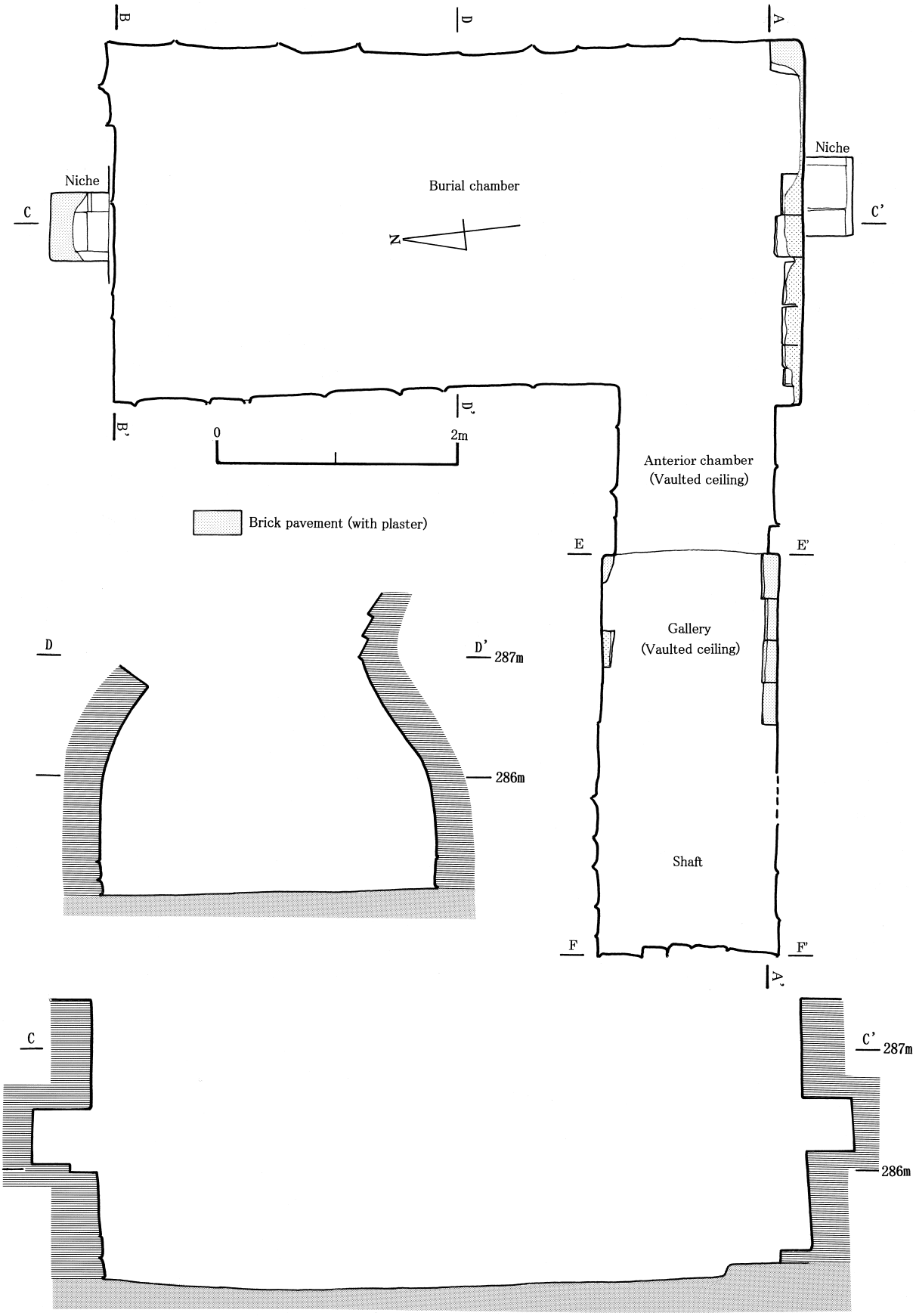

Fig. 5 Plan of floor and sections (C-C', D-D') of the Middle Assyrian underground tomb

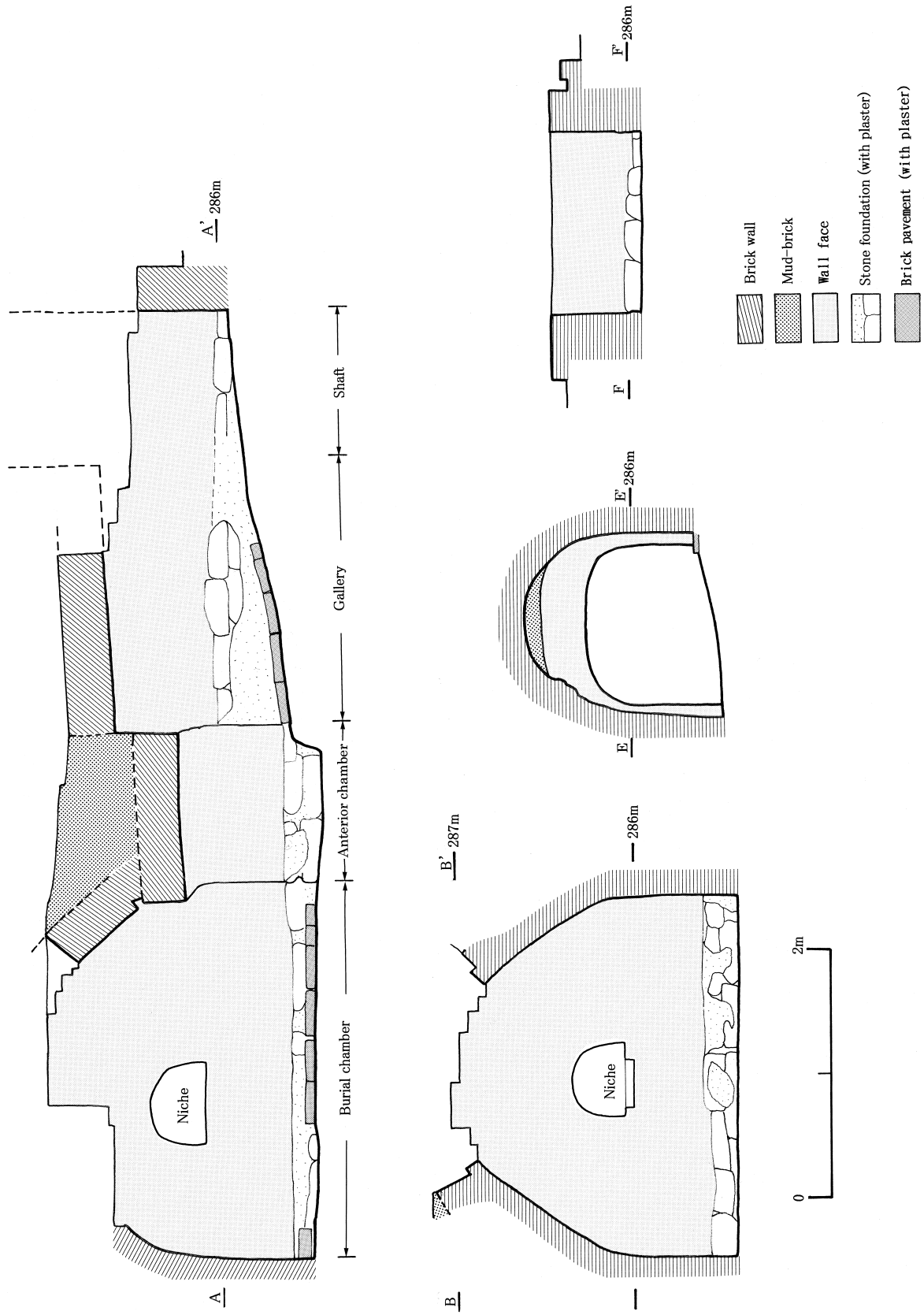

Fig. 6 Sections (A-A', B-B', E-E', F-F') of the Middle Assyrian underground tomb

side of the anterior chamber ceiling, mud-bricks were laid to reinforce the ceiling (Fig. 6; Pl. 22). Probably similar reinforcement was conducted on the gallery ceiling which now lost. The shaft and the gallery were totally filled with soil, but the soil entered into the anterior chamber had left the space of ca. 20 cm below the ceiling. The soil of the gallery and the anterior chamber was packed hard and contained abundant Middle Assyrian potsherds and animal bones.

The burial chamber of the tomb had a rectangular ground plan (Fig. 5; Pl. 28). Both sides of the walls had the remaining height of ca. 2 m and tilted to the inner side ca. 1 m from the floor level (Pl. 29). Although the vaulted ceiling was completely collapsed (Pl. 33), its original height was probably ca. 2.5 m. Although there was a small niche (ca. 60 [width] × 50 [height] × 40 [depth] cm) with a vault-like ceiling at the central part of both north and south walls, no artefacts including inscribed gravestone were found (Pl. 31).

The tomb was constructed in a following way. First, two tiers of limestone slates (ca. 50-60 [length] × 20 [thickness] cm) were built and above this, the mud-brick structure using two types of bricks (ca. 35 × 35 × 5-6 cm and ca. 32 × 32 × 5-6 cm) were constructed (Pl. 30b). The bricks were well built and clay or gypsum plaster was used as a joint. Some remains of gypsum plaster were found on the interior surface of the walls, suggesting that the original walls were all covered with such plaster (Pl. 32). The same thing can be said for the brick floor where part of the plaster was remained (Pl. 30a). The coffin was probably placed in the main chamber, but it was totally destroyed together with the brick floor.

Considering the size and structure of the tomb, we expected some rich burial goods. However, due to heavy destruction, some semiprecious stone and gold beads, potsherds and several human bone fragments were recovered (Pls. 6b). Only the presence of semiprecious stone and gold beads gives a glimpse of what was once a tomb of the royal family. The fill of the burial chamber was well packed and contained numerous fallen brick fragments and Middle Assyrian potsherds (Fig. 8; Pl. 33b). A noteworthy find was the inscribed brick which contained the name of crown prince "Enlil-apla-uṣur" who was the son of king Etel-pi-Adad in the 12th century BC[2] (Pl. 34b). The inscribed brick was found near the floor level of the burial chamber (Pl. 34a). The form and the quality of the inscribed brick suggest that it was the foundation inscription. If this is so, then the deceased person of the tomb was probably the crown prince. In the upper layer of the fill of the burial chamber, we identified the accumulation of layers of the Middle Assyrian Period. This probably implies that the tomb was destroyed or robbed soon after it was built.

4. Conclusion

The total number of cuneiform inscriptions found in the 2006 season was 44 which include 16 clay tablets, two clay envelopes, 25 inscribed bricks, and two cylinder inscriptions. The decipherment of these inscriptions suggests that the clay tablets and envelopes are dated to the Old Babylonian Period, while the inscribed bricks and cylinder inscriptions are to the Middle Assyrian Period.

The Old Babylonian tablets from Tell Taban present the first such examples in the Middle and Lower Khabur region, and the decipherment of the contents will surely contribute to the understanding of political and economic history of the region and beyond. Most of the clay tablets were correspondences, and some other tablets of administrative-legal nature contains the dates (year, month, and date). Such evidence makes possible to place various pottery types found in the pottery kiln into more precise chronology. Therefore, the results from Tell Taban apparently not only contribute to the chronology and pottery study of the Middle Assyrian Period, but also to those of the Old Babylonian Period. The layers dated to the same period as the pottery kiln was found in the north trenches excavated in the 1997 and 1998 seasons as well as in all trenches in the west eroded area

2 According to Yamada, the text read: "Etel-pi-Adad, king of the land of Mari, built it for Enlil-apla-uṣur, his son."

of the mound〔Ohnuma et al. 1999, 2000〕. Thus, the settlement of the Old Babylonian Period was probably much larger than that of the Middle Assyrian Period. The 2006 excavation results together with the decipherment of cuneiform inscriptions (see Yamada article in this volume) unravelled that Tell Taban was in fact "Ṭabatum" often found in the Mari archives and was one of the strategic points along the Middle Khabur area.

Acknowledgements

The 2006 season at Tell Taban was possible by the generous support and encouragement from the DGAM, Damascus. I would like to thank especially Dr. Bassam Jammous, Director General, DGAM and Dr. Michel al-Maqdissi, Director of Excavation, DGAM for their unfailing support. I would also like to thank Mr. Abdul Masih Bagdoo, Director of the Department of Antiquities and Museums in Hassake, who provided us with necessary needs to our excavations.

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Catalogue of Pottery Specimens in Figs 7 and 8

(Fig.7)

1. Small jar (melting pot): from pottery kiln in Trench 8 (Old Babylonian); buff (10YR7/4) / reddish brown (2.5YR4/5) surfaces and core; large amount of very fine sand inclusion; handmade; well baked on lower part of outer surface; not uniform on shape of body; bronze remained in inner surface of the bottom; Max. diam. 5.8cm; Height 7.2cm; complete; identical with pottery in Pls. 16a,17a.
2. Small jar (with groove incision): from pottery kiln in Trench 8 (Old Babylonian); greenish grey (5Y9/2) and cream (2.5Y9/3) surfaces; large amount of very fine sand and sparse vegetable (1mm) inclusion; well baked; wet-smoothed on lower part of body after scraping: string-cut base; Max. diam. 7.4cm; Height 8.8cm; complete; identical with pottery in Pls. 15a, 20a.
3. Painted small jar: from pottery kiln in Trench 8 (Old Babylonian); greenish buff (7.5Y8/2) surfaces; buff grey (10YR6/2) core; blackish brown paint (7.5YR4/2) ; a little very fine sand inclusion; well baked (over fired); wet-smoothed on lower part of outer surface of body after scraping; pallet-cut on bottom; row of triangles with slant lines; Max. diam. 8.4cm; Base diam.3.1cm; identical with pottery in Pl. 20b.
4. Small beaker: from pottery kiln in Trench 8 (Old Babylonian); creamy buff (7.5YR8/3) surfaces; buff (5YR6/5) core; sparse very fine sand inclusion; fine fabric; over fired; Max. diam.7.5cm; 1/2 extant.
5. Small jar/beaker: from pottery kiln in Trench 8 (Old Babylonian); greenish grey (5Y8/2) outer surface; buff grey (7.5YR6/2) inner surface and core; sparse very fine sand inclusion; fine fabric; scraped on lower part of outer surface of body using wheel-turn; Rim diam. 8.2cm; 1/2 extant.
6. Base of jar/beaker: from pottery kiln in Trench 8 (Old Babylonian); greenish grey (5Y8/2) surfaces and core; sparse very fine sand inclusion; fine fabric; scraped on lower part of outer surface of body using wheel-turn; over fired; complete bottom.

(Fig.8)

7. Bowl: from Middle Assyrian level in Trench 10; greenish grey (5Y8/2) surfaces and core; a little fine sand and large amount of vegetable (1-5mm) inclusion; pallet-cut on bottom; Rim diam. 9.7cm; 2/3 extant.
8. Bowl: from Grave 9 (Middle Assyrian) in Trench 10; greenish grey (5Y8/2) and creamy buff (10YR8/4) surfaces; creamy buff (10YR8/4) core; a little fine sand and large amount of vegetable (1-5mm) inclusion; pallet-cut on bottom; Rim diam. 12cm; 1/4-5 extant.
9. Bowl: from Grave 9 (Middle Assyrian) in Trench 10; reddish buff (2.5YR6/6) and greenish cream (5Y9/2) outer surface; light buff (7.5YR7/4) inner surface; a little fine sand and large amount of vegetable (1-5mm) inclusion; containing chalky particles; pallet-cut on bottom; Rim diam. 14cm; 1/3 extant.
10. Bowl: from Grave 9 (Middle Assyrian) in Trench 10; creamy buff (10YR8/4) and cream (2.5Y9/2) surfaces; light buff (5YR7/6) core; a little fine sand and large amount of vegetable (1-5mm) inclusion; wet-smoothed on outer surface of body after scraping; pallet-cut on bottom; Rim diam. 14cm; 1/2.5 extant.
11. Bowl: from Grave 9 (Middle Assyrian) in Trench 10; greenish cream (5Y8/2) surfaces and core; a little fine sand and large amount of vegetable (1-5mm) inclusion; wet-smoothed on outer surface of body after scraping; pallet-cut on bottom; Rim diam. 24cm; 1/6 extant.

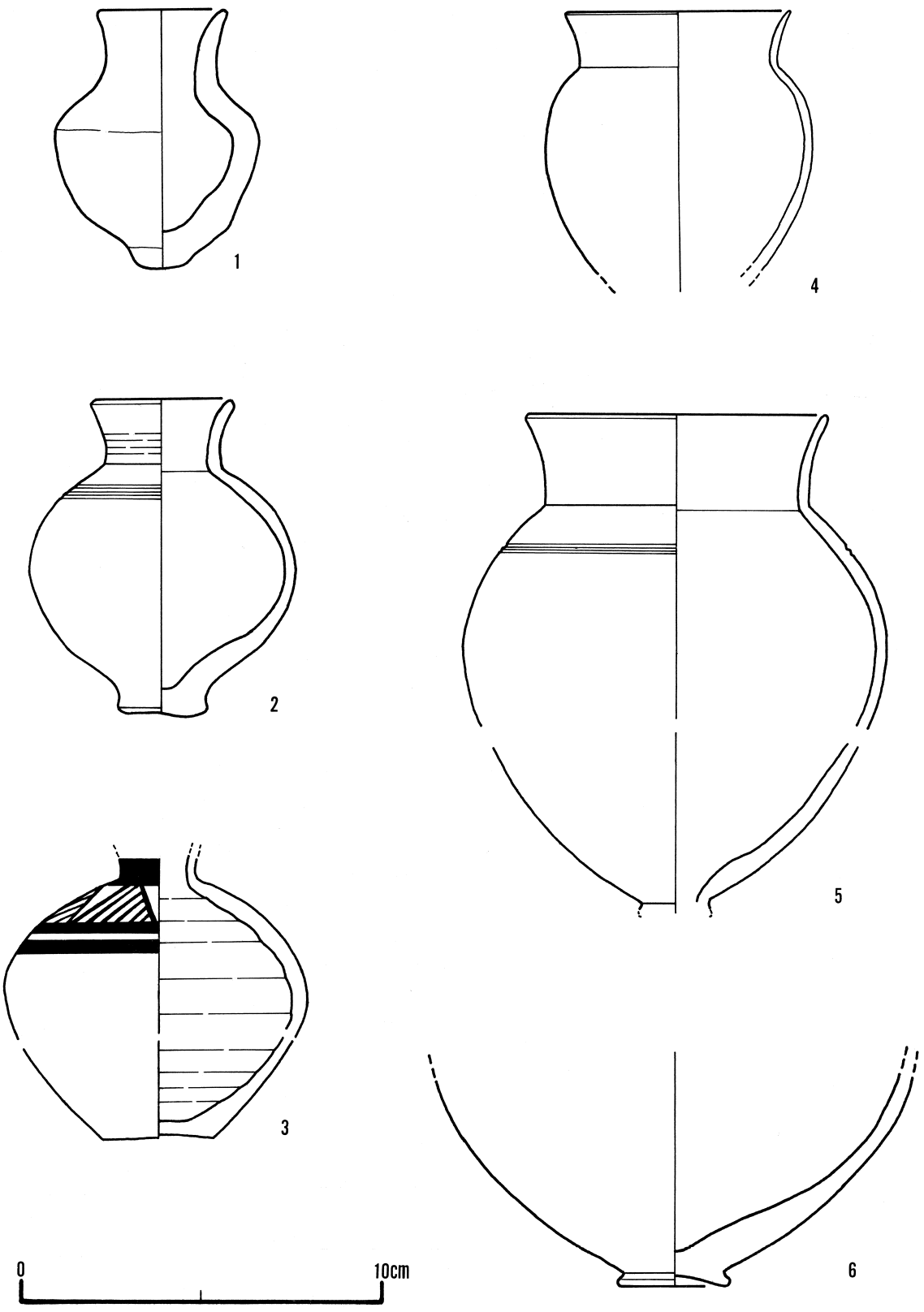


Fig. 7 Pottery from the Old Babylonian pottery kiln

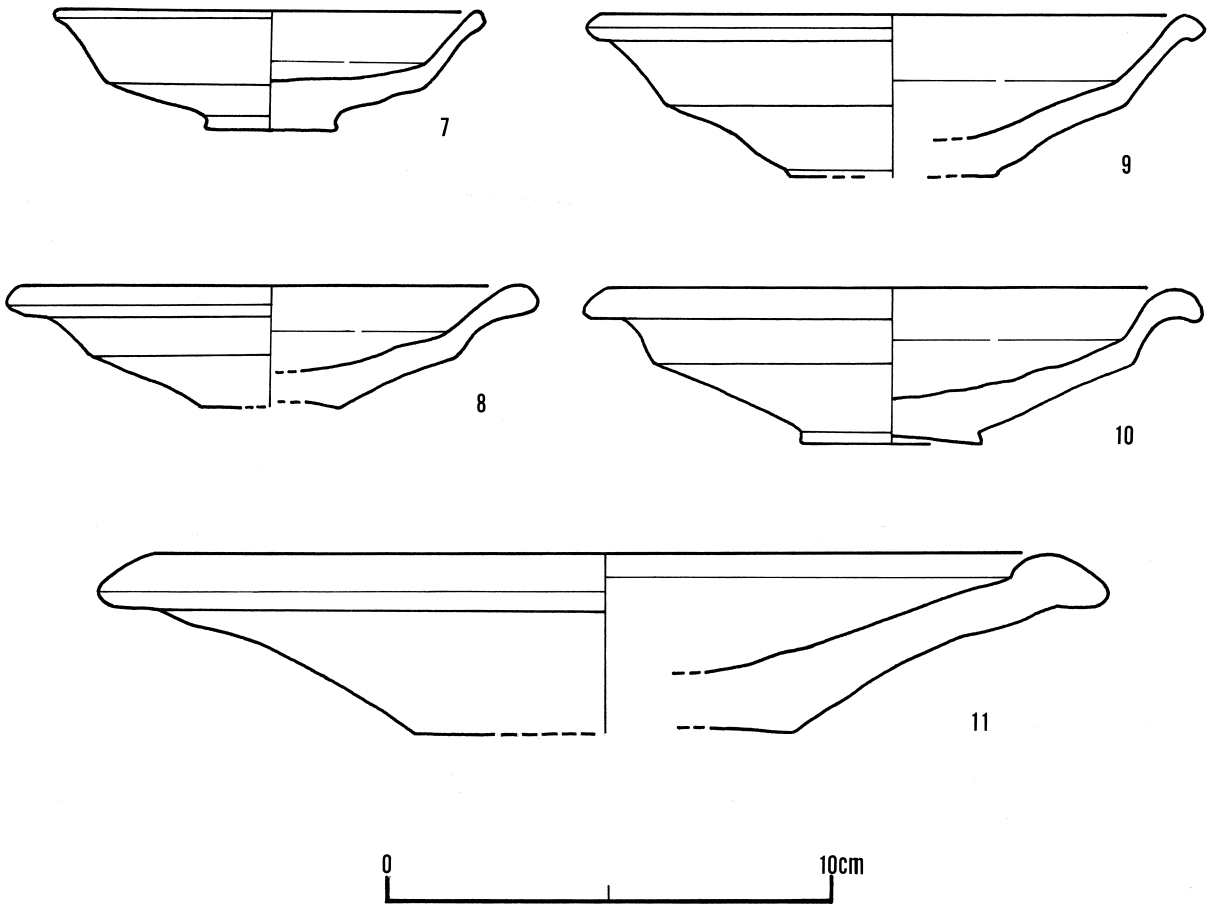
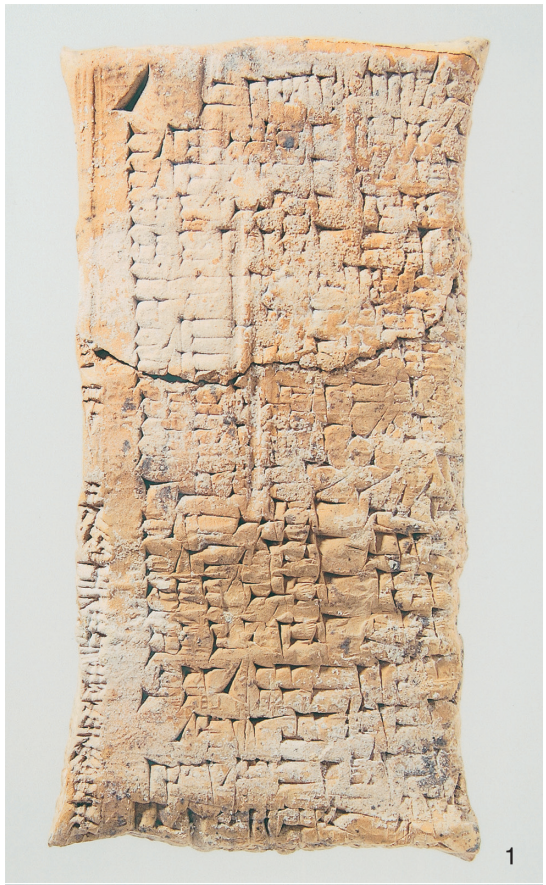
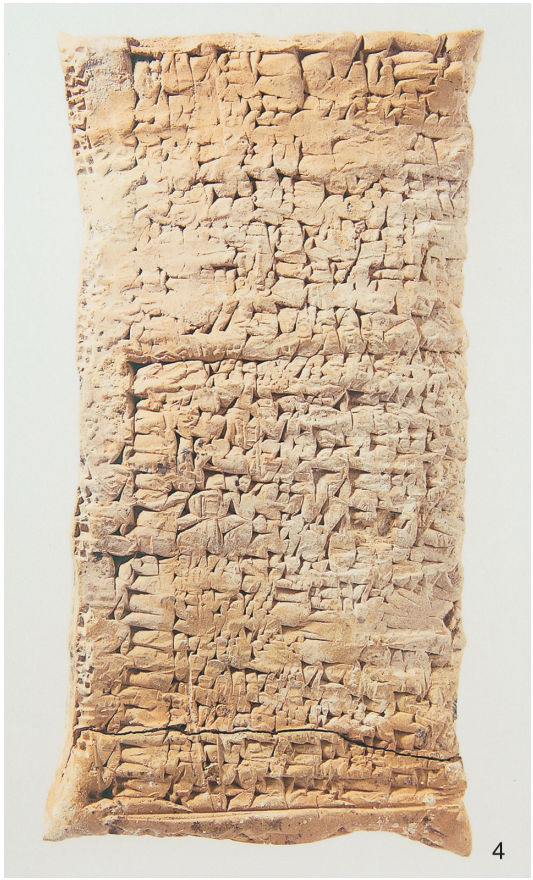


Fig. 8 Pottery from the Middle Assyrian underground tomb

1. obverse
2. bottom
3. reverse

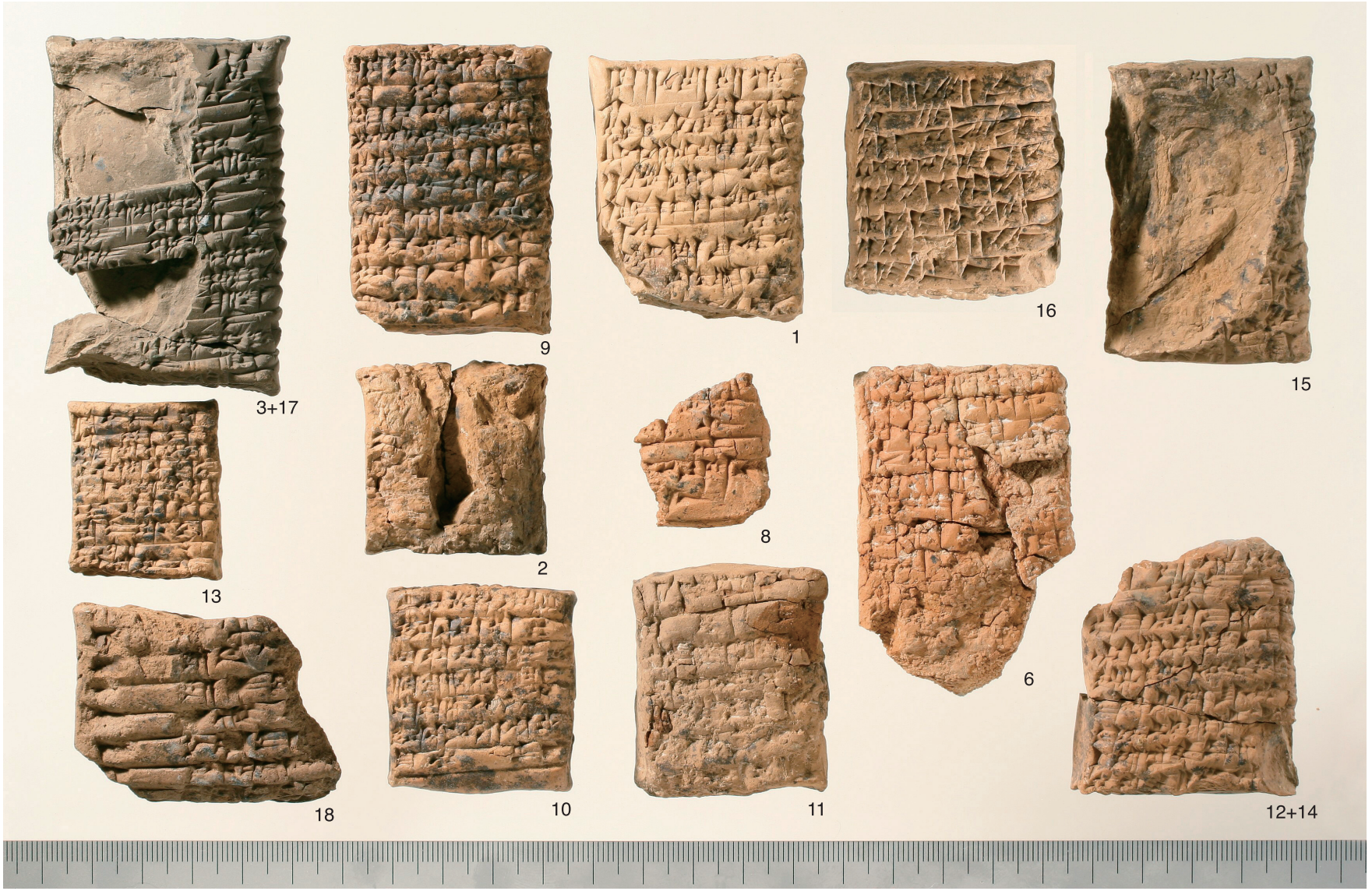
Old Babylonian tablet (Tab T06-4) and its envelope (Tab T06-5) from pottery kiln





1. obverse
2. bottom
3. right side
4. reverse
5. top
6. left side

Old Babylonian tablet (Tab T06-4) from pottery kiln



Old Babylonian tablets (Tab T06-1, 2, 3+17, 6, 8, 9, 10, 11, 12+14, 13, 15, 16, 18) from pottery kiln

Pl. 4

a. Old Babylonian tablet (Tab T06-4) and its envelope (Tab T06-5) from pottery kiln

b. Old Babylonian tablet (Tab T06-4) and its envelope (Tab T06-5) from pottery kiln

a. Old Babylonian tablets from pottery kiln

b. Old Babylonian tablets from pottery kiln (Tab T06-9, 10, 11, 12+14, 13, 15, 16)

Pl. 6

a. Pottery kiln, after excavation, from the south

b. Fragments of gold ornaments from the Middle Assyrian underground tomb

a. General view of Tell Taban, after the 2006 excavation, from the west

b. General view of Tell Taban, from the east

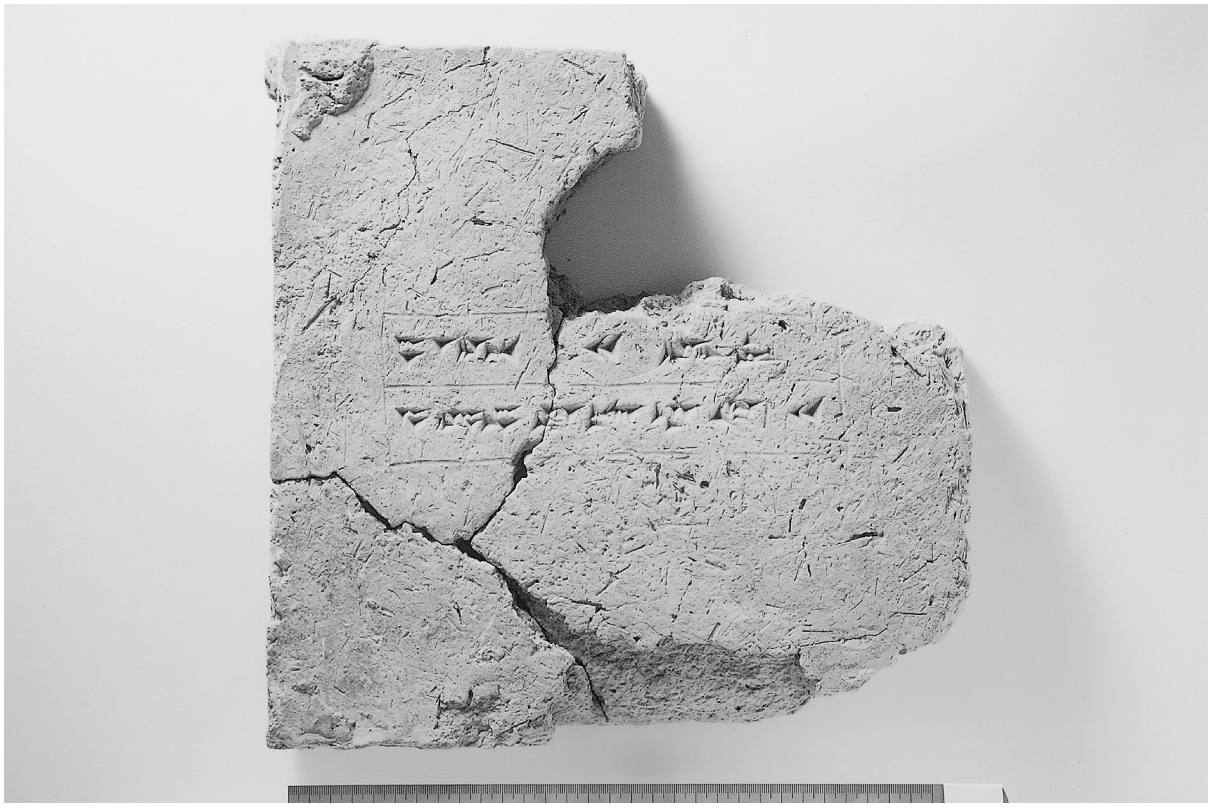
c. General view of Tell Taban, from the south

d. General view of Tell Taban, from the north

e. General view of Tell Taban, from the north west

Pl. 8

a. Inscribed brick from debris of the baked brick structure



b. Inscribed brick

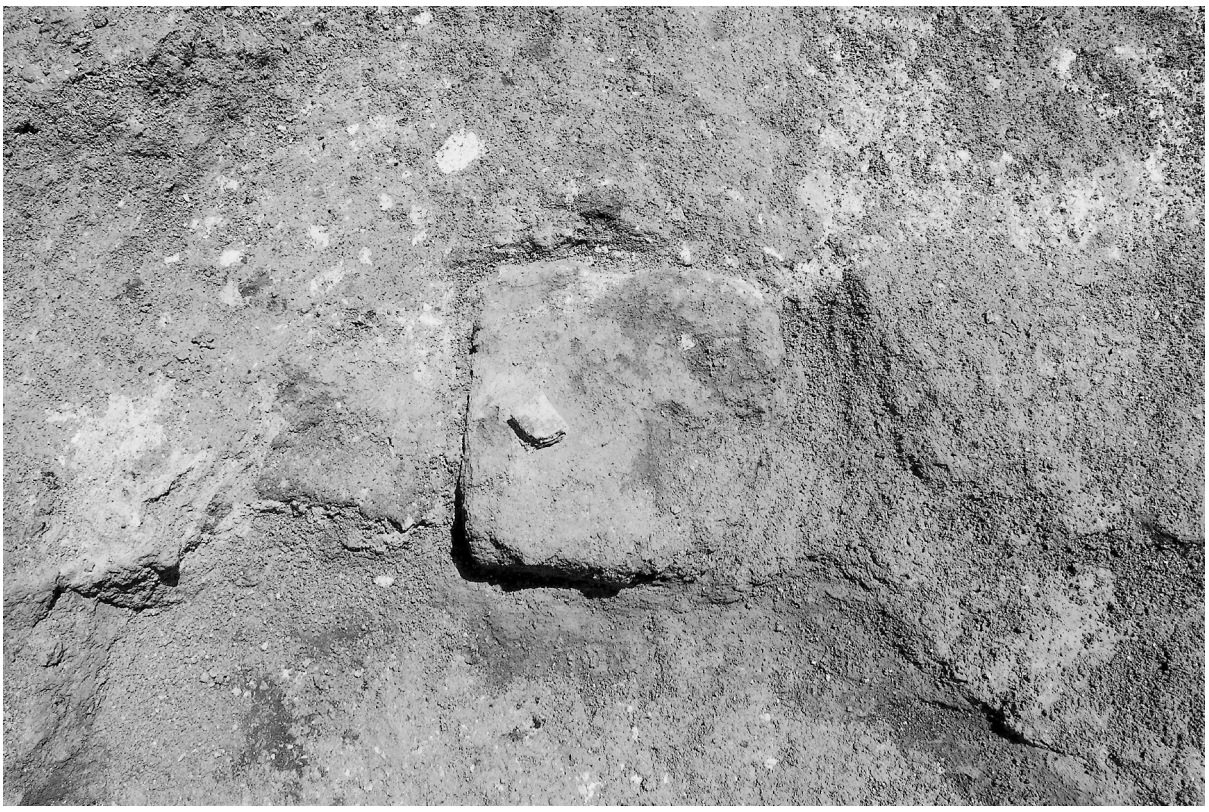
a. Western area of Tell Taban

b. Western excavated area (Trenches 8, 12, 13), after excavation

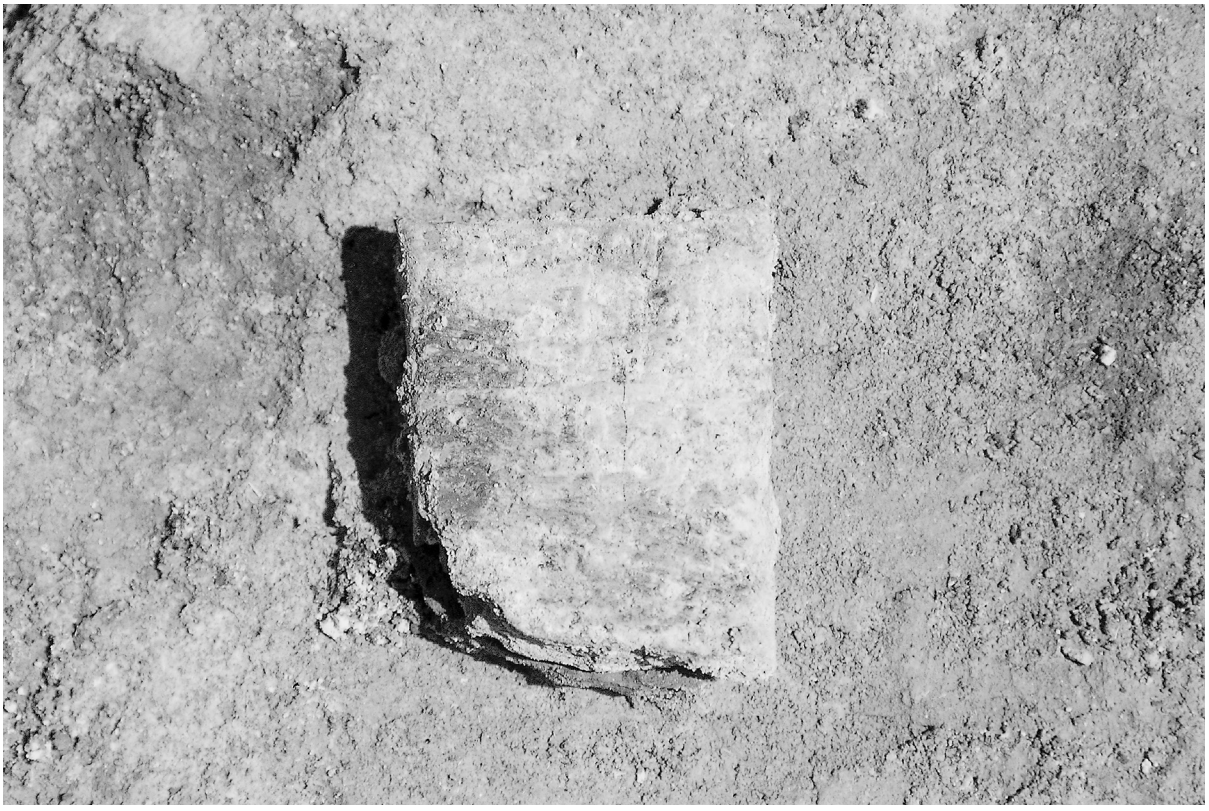
Pl. 10

a. Pottery kiln in Trench 8, after the 2005 summer excavation

b. Pottery kiln in Trench 8, before the 2006 excavation



a. Old Babylonian tablet (Tab T06-1) from pottery kiln

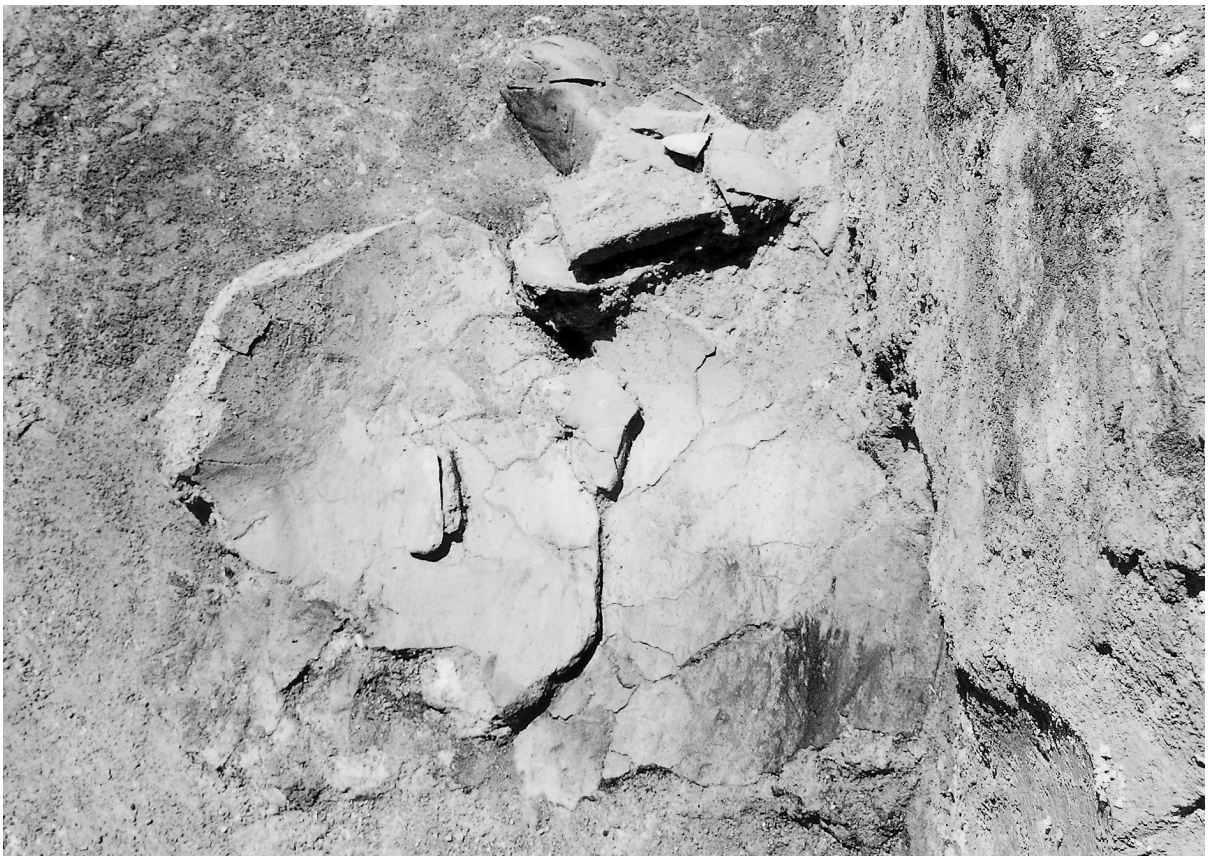


b. Old Babylonian tablet (Tab T06-1) from pottery kiln

Pl. 12

a. Old Babylonian tablet (Tab T06-2) from pottery kiln

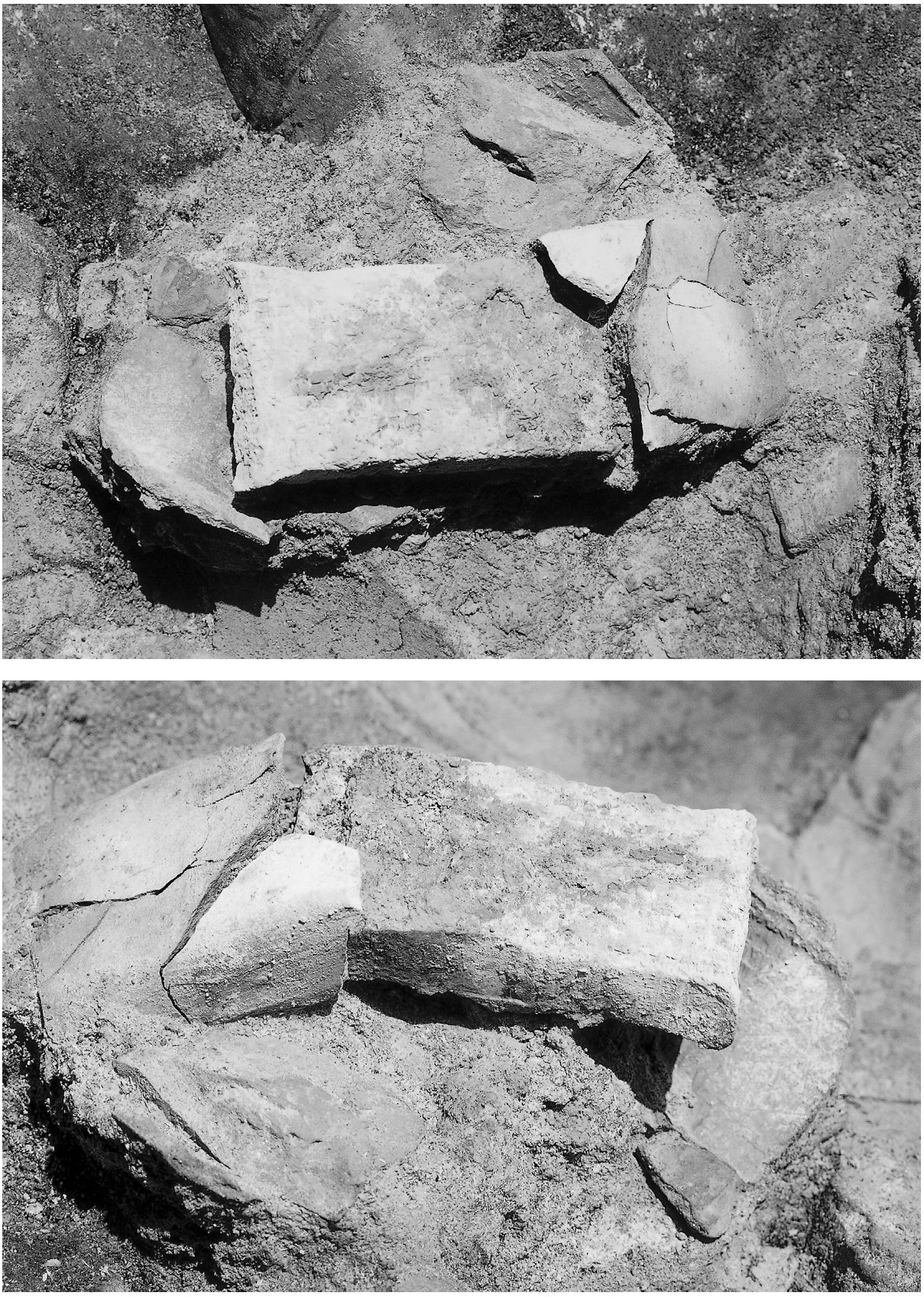
b. Old Babylonian tablet (Tab T06-2) from pottery kiln



a. Old Babylonian tablet (Tab T06-4, 5) and fragment of large jar from pottery kiln

b. Old Babylonian tablet (Tab T06-4) and its envelope (Tab T06-5) from pottery kiln

Pl. 14



Old Babylonian tablet (Tab T06-4) and its envelope (Tab T06-5) from pottery kiln

a. Old Babylonian tablet (Tab T06-6) and small jar from pottery kiln

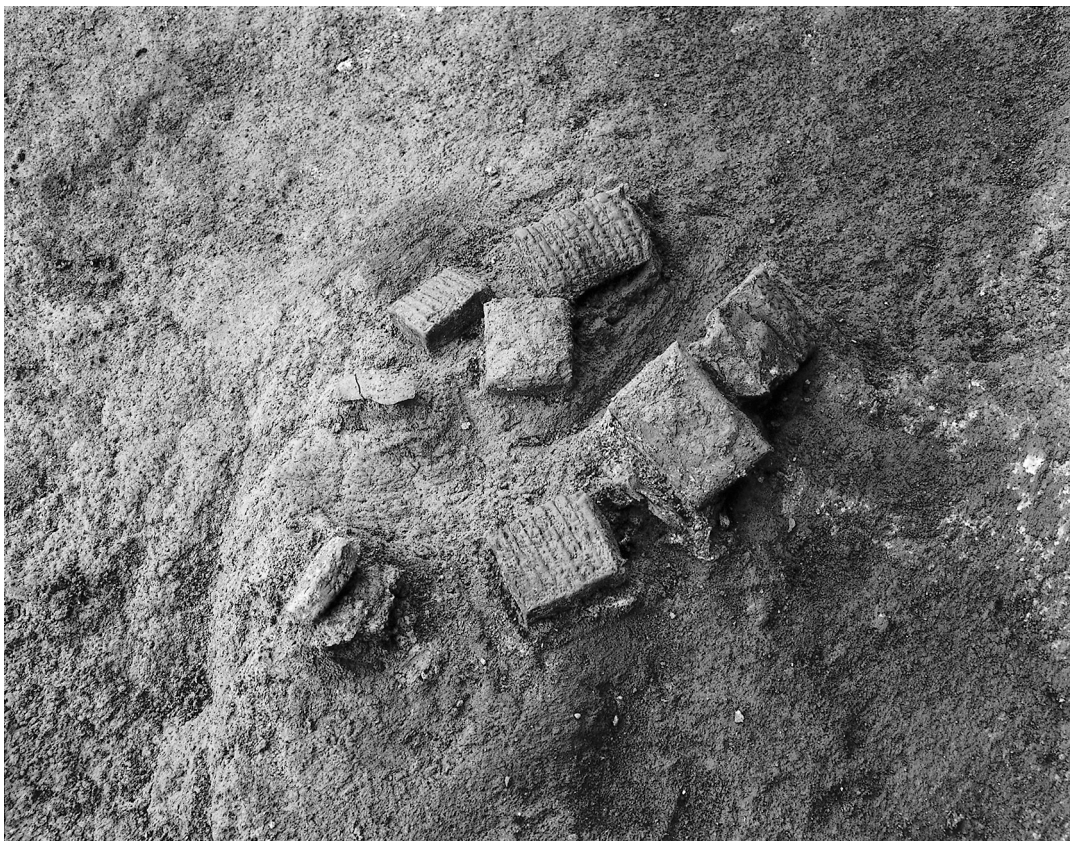
b. Old Babylonian tablet (Tab T06-6) from pottery kiln

Pl. 16

a. Old Babylonian tablets (Tab T06-3+17, 9, 10, 11, 12+14, 13, 15, 16) and melting pots from pottery kiln

b. Old Babylonian tablets (Tab T06-9, 10, 11, 12+14, 13, 15, 16) from pottery kiln

a. Old Babylonian tablets (Tab T06-9, 10, 11, 12+14, 13, 15, 16) from pottery kiln



b. Old Babylonian tablets (Tab T06-9, 10, 11, 12+14, 13, 15, 16) from pottery kiln

Pl. 18

a. Old Babylonian tablet (Tab T06-3) from pottery kiln

b. Old Babylonian tablet (Tab T06-17) from pottery kiln

a. Old Babylonian tablets from pottery kiln, from the south

b. Old Babylonian tablets from pottery kiln, from the north

Pl. 20

a. Small jar from pottery kiln

b. Painted small jar from pottery kiln

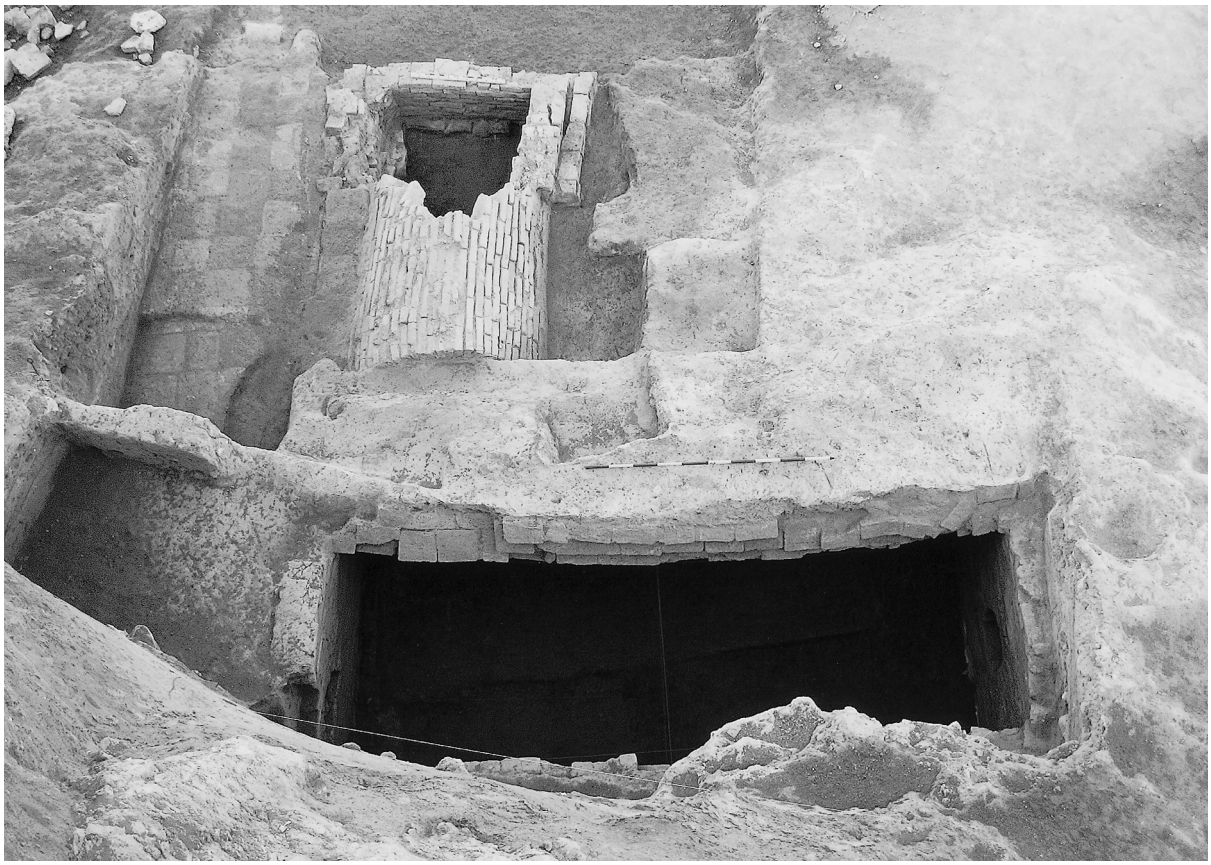
c. Terracotta figurine

d. Terracotta figurine from pottery kiln

a. North western area of Tell Taban

b. North western excavated area (Middle Assyrian underground tomb in Trench 10)

Pl. 22



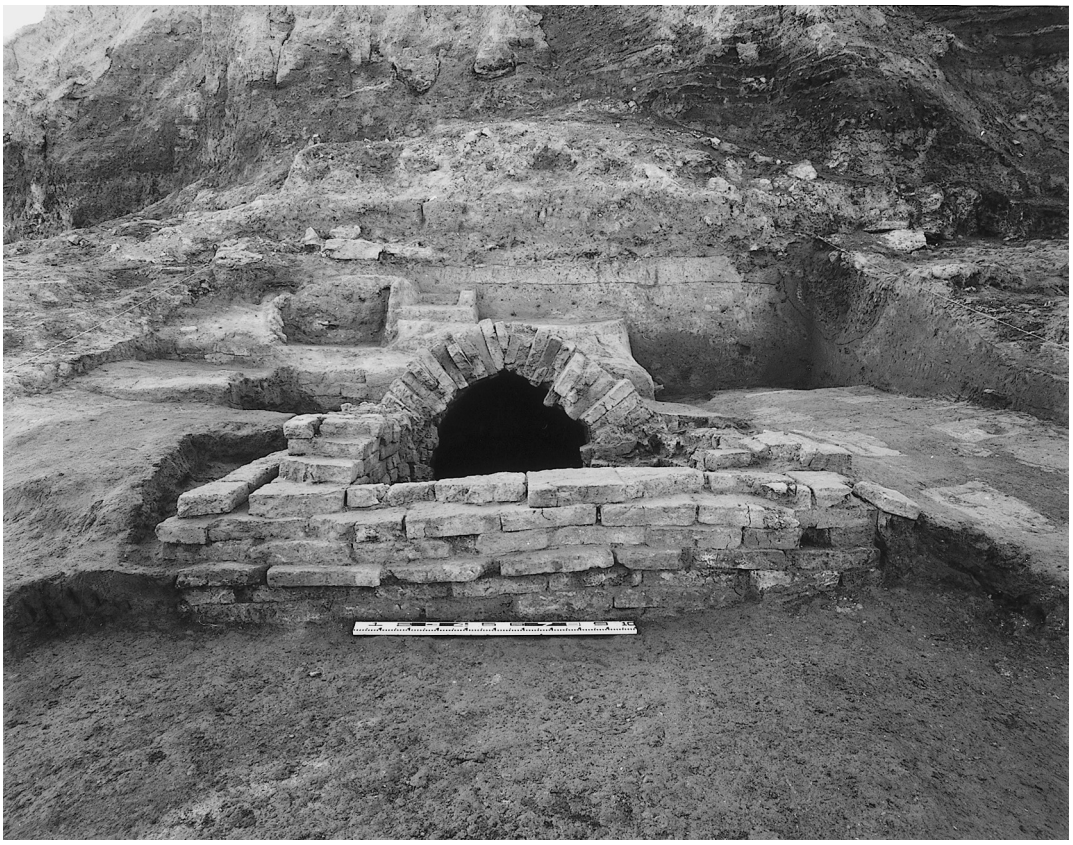
a. Middle Assyrian underground tomb, from the east

b. Middle Assyrian underground tomb, from the north

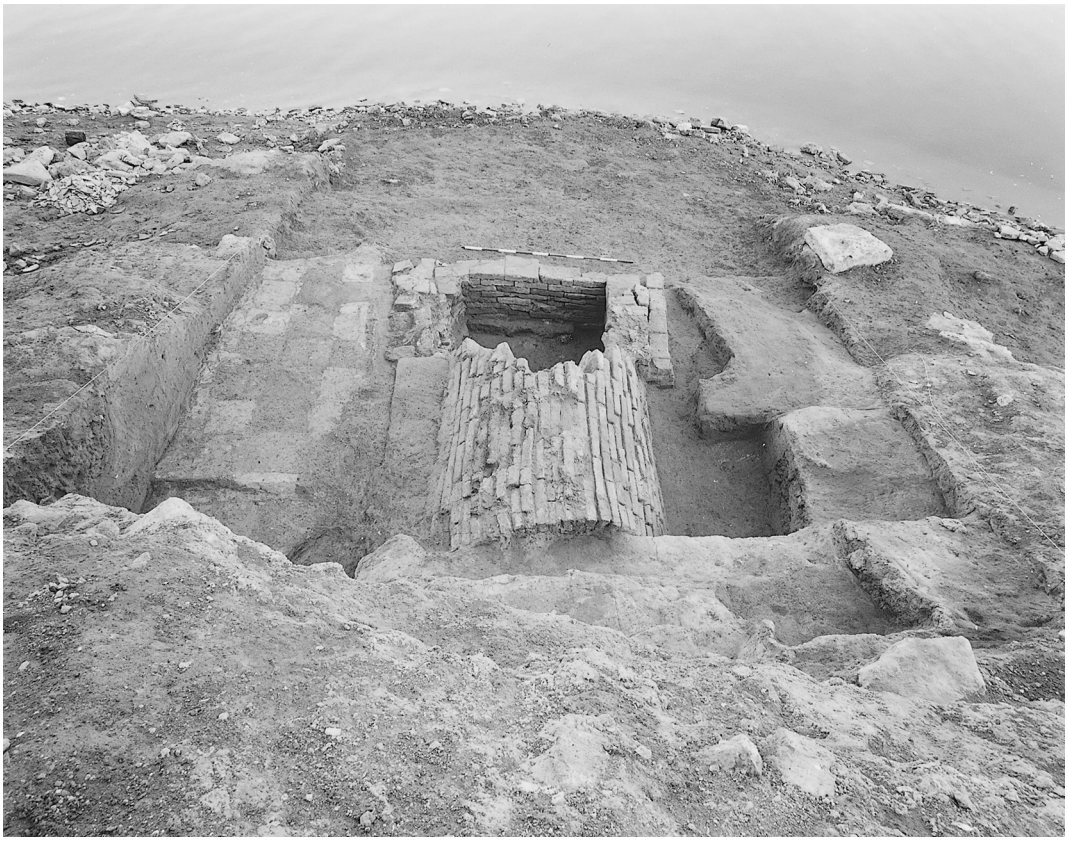
a. North western area of Tell Taban, before excavation

b. Debris of brick wall of the Middle Assyrian underground tomb, before excavation

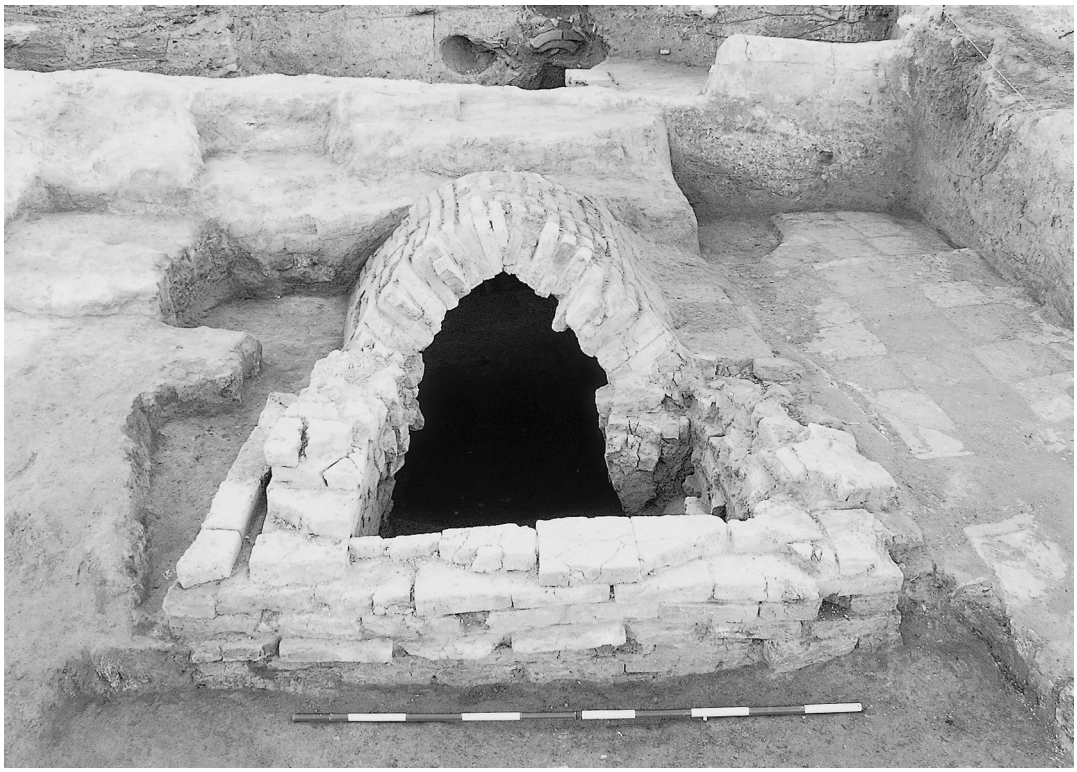
Pl. 24



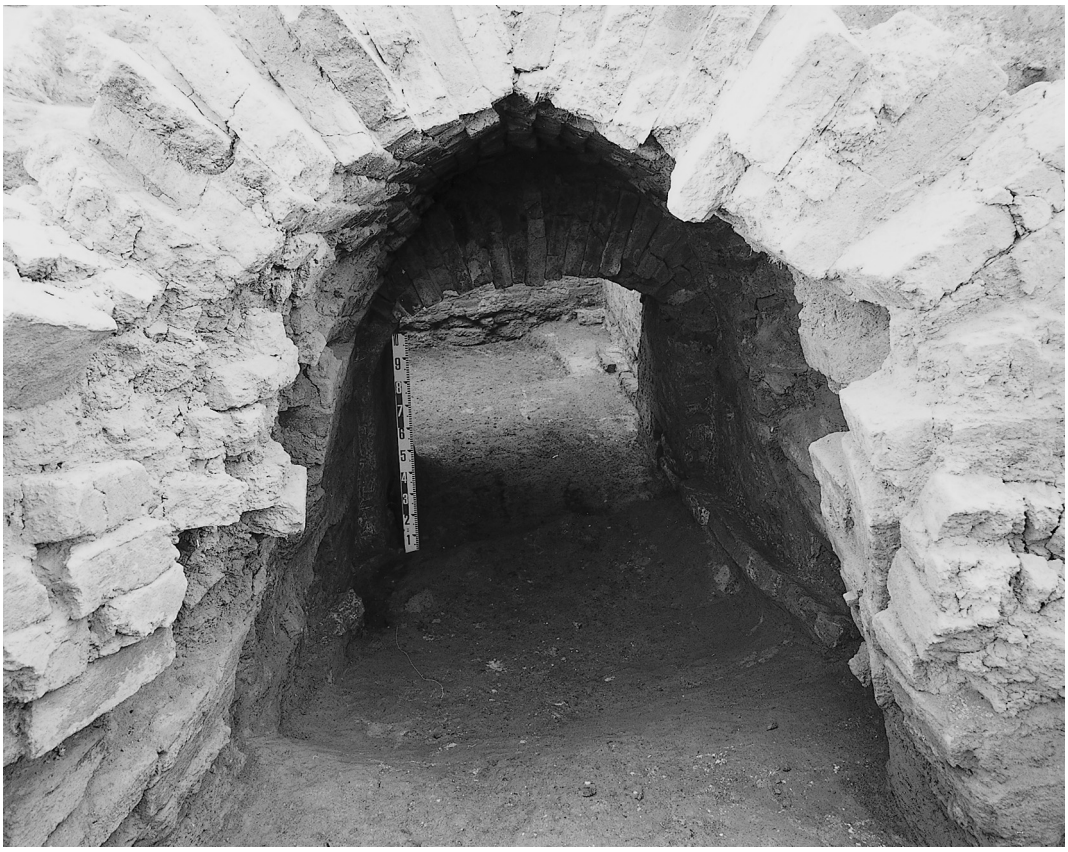
a. Shaft and gallery of the Middle Assyrian underground tomb, from the west



b. Shaft and gallery of the Middle Assyrian underground tomb, from the east



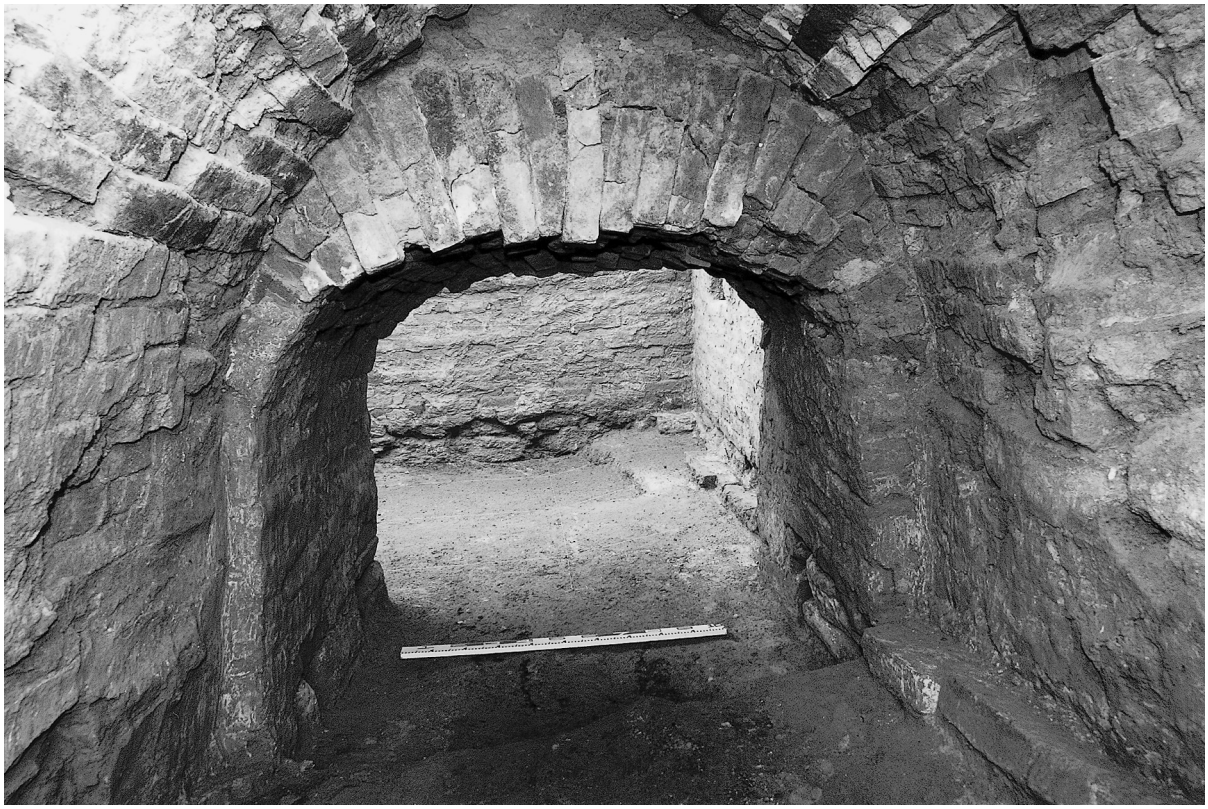
a. Shaft and gallery of the Middle Assyrian underground tomb, from the west



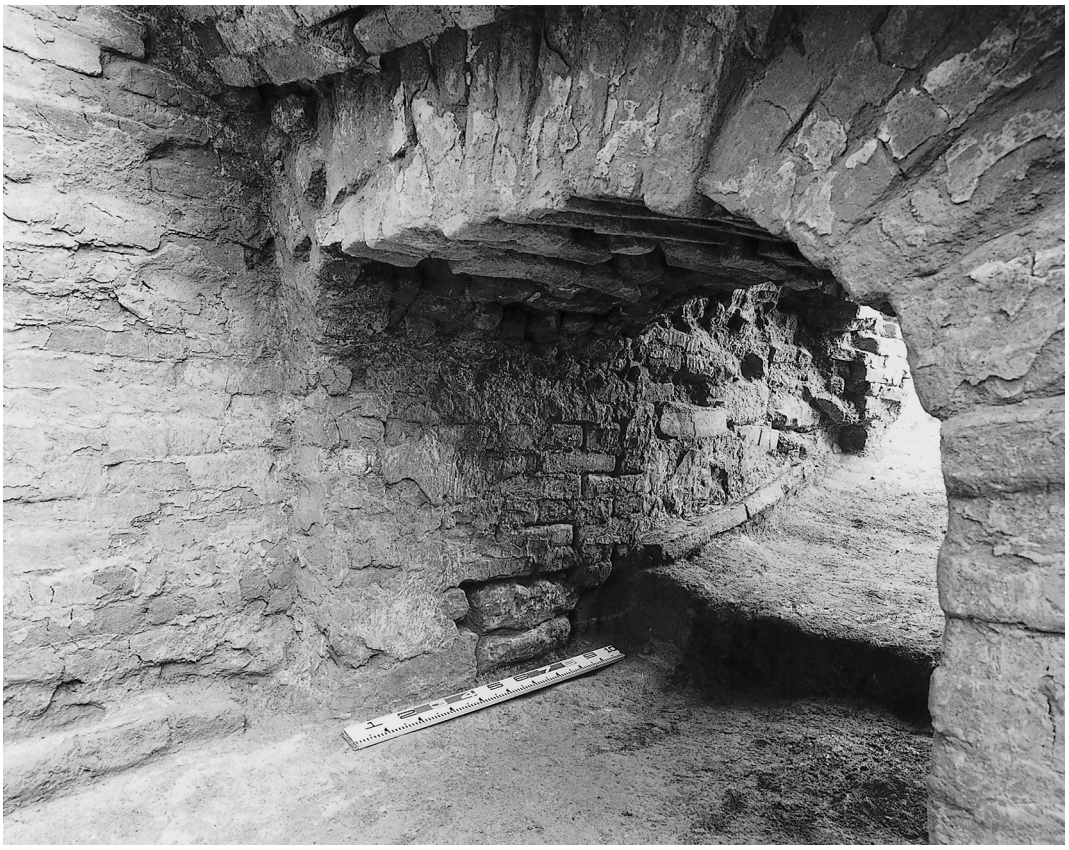
b. Gallery of the Middle Assyrian underground tomb, from the west

Pl. 26

a. Vaulted ceiling of gallery of the Middle Assyrian underground tomb



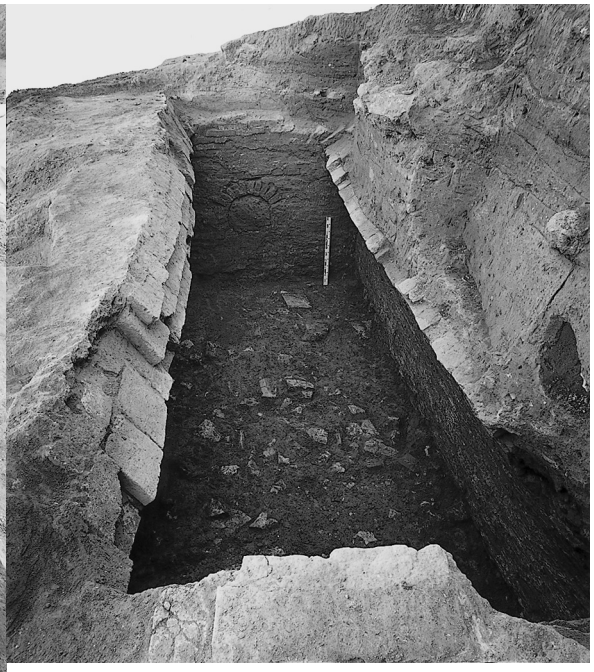
b. Anterior chamber of the Middle Assyrian underground tomb



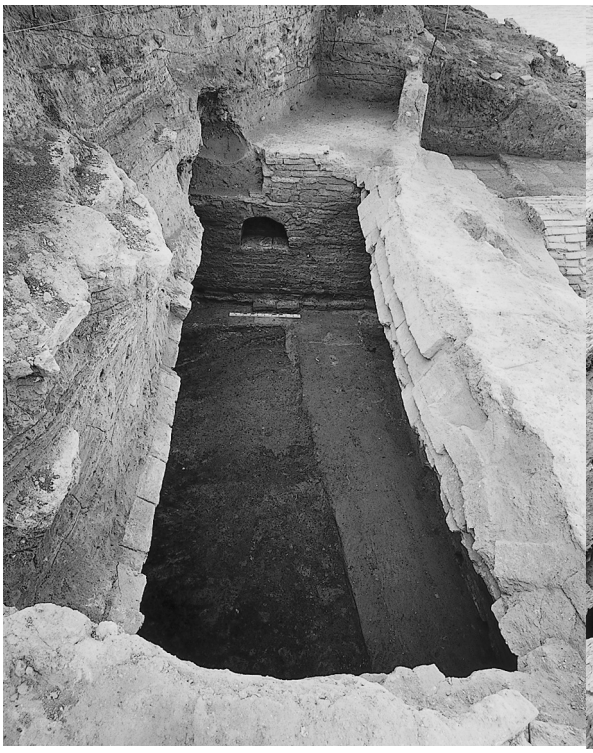
a. Burial chamber and anterior chamber of the Middle Assyrian underground tomb

b. Anterior chamber and gallery of the Middle Assyrian underground tomb, seen from the burial chamber

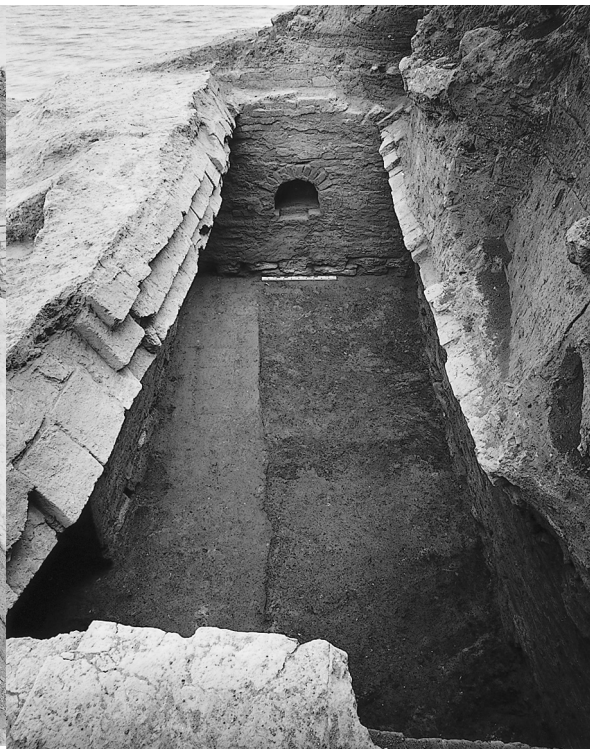
a. Deposit of collapsed brick wall of tomb in the burial chamber, from the north



b. Deposit of collapsed brick wall of tomb in the burial chamber, from the south



c. Burial chamber of the Middle Assyrian underground tomb, after excavation, from the north



d. Burial chamber of the Middle Assyrian underground tomb, after excavation, from the south

a. Burial chamber of the Middle Assyrian underground tomb, from the north

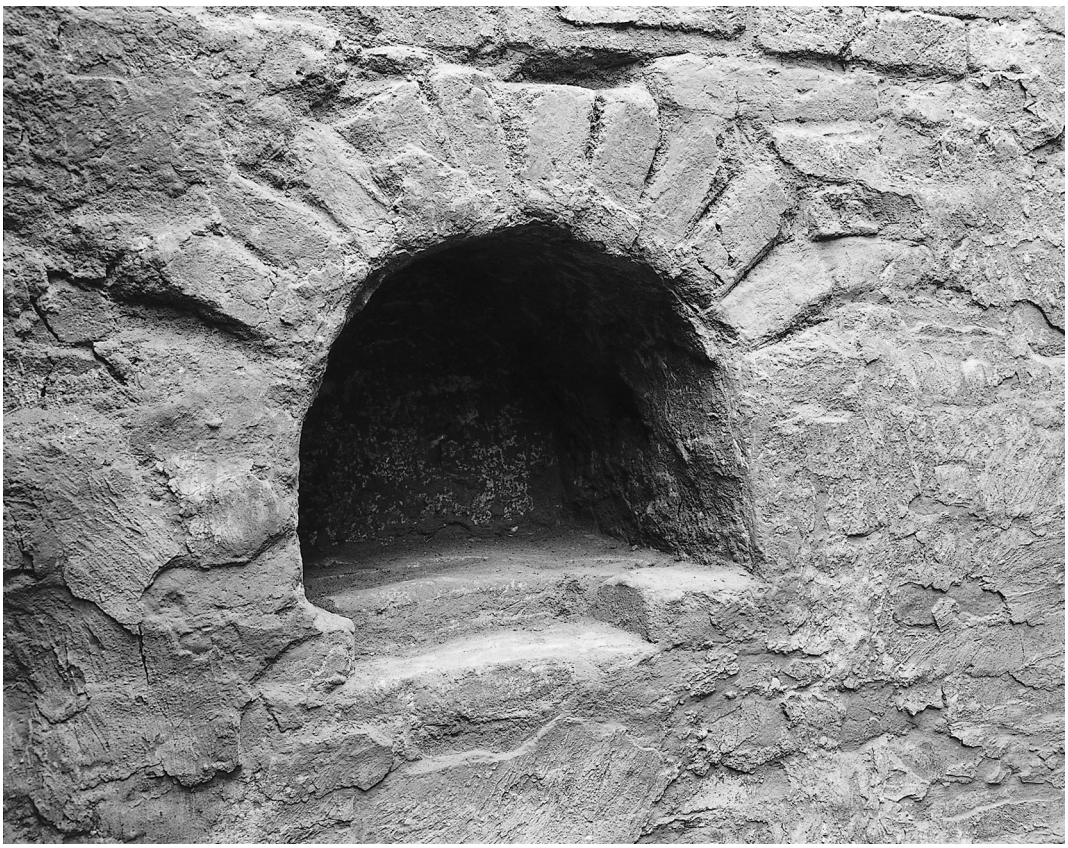
b. Burial chamber of the Middle Assyrian underground tomb, from the south

Pl. 30

a. Trace of the brick pavement and southern wall face in the burial chamber

b. Western wall face of the burial chamber

a. Niche of the southern wall face in the burial chamber



b. Niche of the northern wall face in the burial chamber

Pl. 32

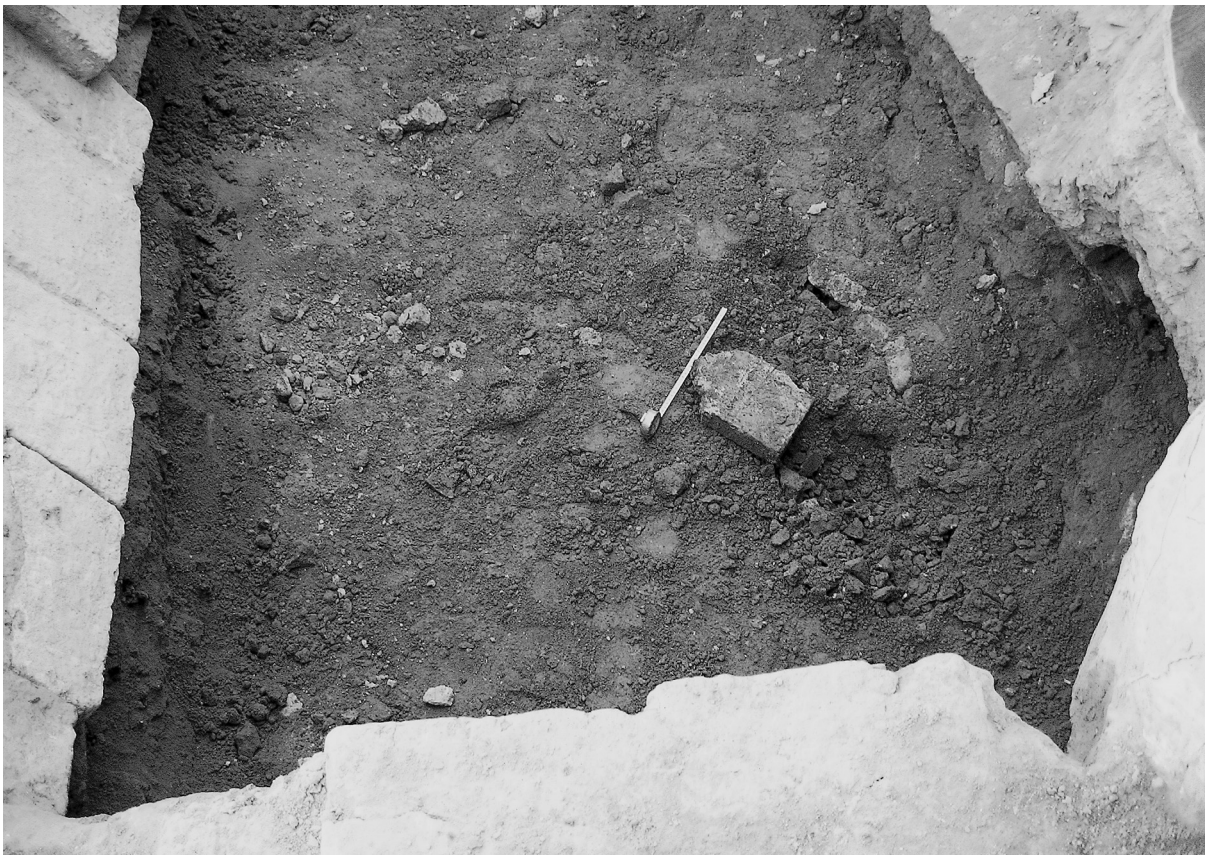
a. Gypsum plaster on the wall face in the burial chamber

b. Stone foundation and gypsum plaster on the wall face in the burial chamber

a. Collapsed bricks of vaulted ceiling in the burial chamber

b. Deposit of collapsed bricks in the burial chamber

Pl. 34



a. Inscribed brick from deposit of the burial chamber

b. Inscribed brick from the burial chamber

A PRELIMINARY REPORT ON THE OLD BABYLONIAN TEXTS FROM THE EXCAVATION OF TELL TABAN IN THE 2005 AND 2006 SEASONS:
THE MIDDLE EUPHRATES AND HABUR AREAS IN THE POST-HAMMURABI PERIOD

Shigeo YAMADA*

Introduction:

The Japanese excavation at Tell Taban, located 19 km south of Hassake in the Hassake Dam Salvage Area, was restarted in the winter season of 2005 after an interruption of five years; it has continued in the three summer seasons of 2005, 2006 and 2007.[1] This new series of excavations has revealed cuneiform texts of various sorts from the Middle Assyrian and Old Babylonian periods.

The Middle Assyrian texts comprise two groups. The first group consists of 94 building inscriptions of the kings of Ṭābatu (modern Tell Taban), or "king(s) of the land of Māri (*šar māt Māri*)" according to their own designation,[2] found in various places on the mound. These texts, inscribed on clay cylinders, nails and bricks[3] are dated to the period of about one hundred years from the beginning of the 12th century BC to the beginning of the 11th century BC. They have already started to be studied along with the hitherto published Middle Assyrian building inscriptions of the kings of Māri which were discovered at Tell Bderi and Tell Taban in 1985–1990 and in 1997–1999, respectively.[4] The second group of Middle Assyrian texts consists of a considerable number of tablets, about 150 to 200, from the royal administrative archive, unearthed in trenches 5 and 7 during the winter and summer seasons of 2005. D. Shibata published a preliminary report on those tablets in the previous volume of this journal.[5] As his report has shown, they provide a rich mine for investigating the internal organization of the Middle Assyrian kingdom of Māri and its relations with other parts of the Middle Assyrian empire from the middle of the 13th century BC to the first part of the 12th century BC.

I shall deal here with a different group of texts, i.e., 25 pieces of Old Babylonian tablets and

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I would like to thank Dr. Bassam Jammous (Director General, DGAM), Dr. Michel al-Maqdissi (Director of Excavations, DGAM) and Mr. Ghassan Abdulaziz (Conservator, National Museum of Damascus), who granted me permission to work on the tablets and assisted me in various matters. I am also very grateful to Prof. H. Numoto, the director of the excavation at Tell Taban, who entrusted me with the study of the Old Babylonian tablets and supplied archaeological data and research materials. My sincere gratitude goes to Prof. D. Charpin, Prof. J.-M. Durand and Dr. D. Shibata, who read a draft of this paper and gave me numerous useful comments. I also owe a debt of gratitude to Prof. A. Cavigneaux, Prof. G. Marchesi, Dr. J. Peterson and Mr. N. Ariga for the benefits I had from communication with them. This study was financially supported by a Grant-in-Aid for Scientific Research from the Ministry of Education, Sciences, Sports and Culture (Japan).

1 For the excavations in the 2005 and 2006 seasons, see Numoto 2006, Numoto 2007a and Numoto's article in the present volume (Numoto 2008).

2 For this title, see Shibata 2007, p. 63 with n. 3, and the bibliography cited there.

3 Forty-seven inscriptions and inscribed fragments were found through the 2006 season. The excavation of 2007 added a further 47 fragments to this category.

4 S.M. Maul published 28 texts found by German excavations at Tell Bderi, c. 6 km north of Tell Taban, during 1985–1990 (Maul 1992). These include 27 building inscriptions (cylinders and bricks), as well as a clay tablet fragment with an administrative text of an earlier age (the middle of the second millennium BC). He also published 71 texts from Tell Taban (Maul 2005), including 70 building inscriptions (cylinders, nails and bricks) and one fragment of a clay tablet with administrative contents. Another cylinder of Aššur-ketta-lēšer II, possessed by the Bible Land Museum in Jerusalem (provenance unknown), was first published by W. G. Lambert (Lambert 1991) and then reedited by Maul (Maul 1992, pp. 35–41).

5 Shibata 2007.

inscribed envelopes unearthed from trench 8 during the summer seasons of 2005 and 2006.[6] Some of the tablets are yet to be cleaned for reading, but it is expected that the entire corpus of those tablets will be published along with detailed studies on them. However, the present paper aims to provide the reader with a general overview of this group of texts and to discuss some of their contents, in particular the historical data.

Archaeological Context:

The Old Babylonian tablets and inscribed envelopes were found in a pottery kiln of rectangular shape (measure c. 3 × 2 m) found in trench 8, located at the southernmost point of the hitherto excavated areas at the western side of the mound.[7] The trench was opened at a point where the surface of a cliff had been eroded by high waters in the Hassake Dam Salvage area, and the kiln was excavated continuously during the two seasons. A total of ten pieces were found in 2005 and fifteen in 2006. All of the tablets and fragments were found baked. Seven of the tablets from 2005 (Tab T05B-39, 40, 41, 42, 43, 44, 45) were discovered near the mouth of the kiln and situated in or near a broken wide-mouth jar.[8] The five found in the body of the jar (Tab T05B-41, 42, 43, 44, 45)[9] are now known to be letters (see below). In 2006 a large tablet inscribed with a land grant contract (Tab T06-4) and contained in an envelope (Tab T06-5) was similarly found on top of fragments of a large wide-mouth jar; it was found in the burned layer of the broken north (left) side wall of the kiln.[10] The excavator, H. Numoto, postulates that the other seven tablets from 2006 (Tab T06-9, Tab T06-10, Tab T06-11, Tab T06-12 + Tab T06-14, Tab T06-13, Tab T06-15, Tab T06-16) found in a small area of c. 30 × 20 cm in the inner part of the kiln had also possibly been baked together in a bowl or basket.[11] Numoto assumes the tablets probably were in the process of being baked in preparation for being stored in an archive room, though it is unclear why they were found still in the kiln.[12]

Items Unearthed: General Description:

The inscribed pieces unearthed from the trench 8 can be classified into three categories, i.e. (1) lexical texts, (2) letters, and (3) legal-administrative texts. A description of each group follows.

(1) Lexical Texts (3 pieces) : One (Tab T05B-36)[13] is a fragment (Height 11.3', Width 11.5, Depth 3.4 cm) from the lower half of a large, well preserved five-column tablet, bearing an elementary syllable exercise of the TU-TA-TI type. The other two fragments (Tab T05B-37[14] and Tab T05B-38), probably also elementary scribal exercises, are badly preserved and have yet to be cleaned to be studied. These latter two pieces were possibly joined to each other.

(2) Letters (16 pieces): More than half of these tablets are well preserved, but others are fragmentary or severely damaged. The sizes of the tablets vary from c. 7.0 × 5.0 cm to 3.5 × 3.0

6 For the excavations in these seasons, see Numoto 2007a and Numoto 2008 (in the present volume). Three other Old Babylonian texts were found at various places on the mound in the 2006 and 2007 seasons. One (Tab T06-47) is a tiny fragment of a clay tablet found in 2006 in the disturbed layer under the floor of the tomb excavated in trench 10. The other two were found on the surface in 2007. One (Tab T07-1) is a fragment of a baked tablet with a list of divine names. The other (Tab T07-3) is a tablet recording rations of barley dated to a year name of Yadih-abu (see below).

7 Numoto 2007a, pp. 9–11, and Numoto 2007b, pp. 11–17.

8 Numoto 2007a, p. 10, Fig. 9, Tablets nos. 1–7.

9 Numoto 2007a, p. Fig. 9, Tablets nos. 3–7.

10 Numoto personal communication. Now, see Numoto 2008.

11 Numoto 2007b, pp. 13–14, and Numoto 2008.

12 Numoto 2007a, p. 9, and Numoto 2008.

13 Photograph: Numoto 2007a, pls. 3 and 27a-b.

14 Photograph: Numoto 2007a, pl. 34 a-b.

cm. Eight letters (Tab T05B-41,[15] Tab T05B-42,[16] Tab T05B-43,[17] Tab T05B-44,[18] Tab T06-1,[19] Tab T06-9,[20] Tab T06-10,[21] Tab T06-12 + Tab T06-14[22]) are addressed to a certain Yasīm-Mahar, apparently the local ruler of the ancient city of Ṭābatum, modern Tell Taban (see below). Two of these letters (Tab T05B-42 and Tab T05B-43) are letter orders sent by his overlord Iṣī-Sumuabi, who can be identified as the king of Terqa (see below). These two letters from Iṣī-Sumuabi, as well as two others (Tab T05B-41, Tab T05B-44) sent from a certain Tâṣī-'annu (*Ta-ṣí-an-nu*),[23] most likely the ruler or governor of a nearby city, deal with the security of the region, the management of the tax-barley apparently collected for the overlord in Terqa, and the transportation of silver. The other four letters are sent from persons who describe themselves as "brother" to Yasīm-Mahar—three who refer to themselves as "your brother" (*ahūka*) (Tab T06-9, Tab T06-10, Tab T06-12 + Tab T06-14) and one who calls Yasīm-Mahar "my bother" (*ahī, ahīya* [genitive]) (Tab T06-1). These deal with various subjects, such as land ownership, the supply and management of animals and workers, and the payment of silver. Besides these eight letters, another two fragmentary letters (Tab T06-3 + Tab T06-17[24], Tab T06-11[25]) are also possibly addressed to Yasīm-Mahar, though the names of addressees are only partially preserved.[26] One letter (Tab T06-13[27]) refers to Yasīm-Mahar as the sender. Thus, the great majority of letters are certainly connected with this person. The remainder (Tab T05B-45,[28] Tab T06-2,[29] Tab T06-6,[30] Tab T06-15,[31] Tab T06-16[32]) consist of correspondence between different persons or are letters in which the names of sender and/or addressee are not preserved.

(3) Administrative-Legal Texts (6 pieces): Three tablets are of administrative content (Tab T05B-39,[33] Tab T05B-40,[34] Tab T06-18[35]). One (Tab T05B-39) that bears a list of some monthly rotation was found almost complete (Height 7.8, Width 4.9, Depth 2.3 cm), though the surface is partially effaced. The text is sealed and records ten month names (see below), each of which is followed by two personal names. It twice mentions the name of Iṣī-Sumuabi, once at the beginning (l. 2) in an unclear context and again in the year name given in the end (l. 24) (see below). The second text (Tab T05B-40), which was found complete (Height 7.5, Width 4.0, Depth 2.2 cm), being well baked and preserved in good condition, is a list giving rations in terms of the standard beer jug (*pīhu*).[36] This list, which is not dated, contains 33 personal names, for each of which the number of the beer jugs given (all "one," except for a single instance of "two") is indicated. The third piece (Tab T06-

15 Photograph: Numoto 2007a, pls. 30b and 38 (Text No. 3).
16 Photograph: Numoto 2007a, pls. 31a-b and 38 (Text No. 4).
17 Photograph: Numoto 2007a, pls. 32b and 38 (Text No. 5).
18 Photograph: Numoto 2007a, pls. 32b and 38 (Text No. 6).
19 Photograph: Numoto 2008, pl. 3 (Tab T06-1).
20 Photograph: Numoto 2008, pl. 3 (Tab T06-9).
21 Photograph: Numoto 2008, pl. 3 (Tab T06-10).
22 Photograph: Numoto 2008, pl. 3 (Tab T06-12+14).
23 The name is spelled *Ta-ṣí*(ZI)-*an-nu* (Tab T05B-41, l. 3, Tab T05B-44, l. 3). Cf. the grammatical analysis of the name *Ta-a-zi-an-nu* by M.P. Streck as *Tayṣī-'annu* "Erschienen ist 'Annu" (Streck 2000, p. 192, §2.91).
24 Photograph: Numoto 2008, pl. 3 (Tab T06-3+17).
25 Photograph: Numoto 2008, pl. 3 (Tab T06-11).
26 Tab T06-3 + Tab T06-17, obv. 1: [*a+na ia-si-im*]-*ma-har*. Tab T06-11, obv. 1: *a+na ia-si-*⌜*im-ma*?⌝-[*har*].
27 Photograph: Numoto 2008, pl. 3 (Tab T06-13).
28 Photograph: Numoto 2007a, pls. 33a-b and 38 (Text No. 7).
29 Photograph: Numoto 2008, pl. 3 (Tab T06-2).
30 Photograph: Numoto 2008, pl. 3 (Tab-T06-6).
31 Photograph: Numoto 2008, pl. 3 (Tab-T06-15).
32 Photograph: Numoto 2008, pl. 3 (Tab-T06-16).
33 Photograph: Numoto 2007a, pls. 29a-b and 38 (Text No. 1).
34 Photograph: Numoto 2007a, pls. 30a and 38 (Text No. 2).
35 Photograph: Numoto 2008, pl. 3 (TabT06-18).
36 For *pīhu*(*m*) as the standard-capacity beer jug, see Kraus 1984, pp. 253–255.

18) is a fragment of a list of personal names (Height 4.0', Width 5.3', Depth 2.2' cm). The preserved text includes parts of some 13 names, each preceded by the number "1" or "2," apparently the number of items of an unknown something assigned to each person.

The largest administrative-legal tablet (Tab T06-4;[37] Height 11.6, Width 6.1, Depth 2.9 cm) was found complete, inside an inscribed envelope (Tab T06-5[38]). It is a dated contract recording a royal land grant by Iṣī-Sumuabi, "the king," and offers the most significant data for considering the historical context of the texts from the kiln, as I discuss below.

Another fragment, apparently belonging to a different envelope (Tab T06-7; Height 2.9, Width 3.6, Depth 0.6 cm), bears a seal impression and a small number of sign traces. A further small tablet fragment (Tab T06-8;[39] Height 3.0, Width 2.8, Depth 1.5 cm) likely records some transaction, though it contains only parts of a number of personal names and some not fully intelligible words.

Royal Grant Document Tab T06-4

I would like to consider the historical context of the finds more in detail, focusing on the aforementioned royal land-grant contract (Tab T06-4). The texts on the tablet and envelope (Tab T06-5) read as follows:

TABLET
Obv.
1. 10 IKU A.ŠÀ *i+na* A.GÀR *pí-⌜it⌝-ha-tim*
2. ÚS.SA AN.TA ÍD.*ha-bu-u*[*r*]
3. ÚS.SA KI.TA *mu-ut-ba-na-e*
4. SAG.DU AN.TA ÍD.*ha-bu-ur*
5. SAG.DU KI.TA *sa-ki-x-x-tum*
6. 5 IKU A.ŠÀ *i+na* A.GÀR *pí-it-ha-tim*
7. ÚS.SA AN.TA *qí-iš-⌜ti*-DINGIR⌝
8. ÚS.SA KI.TA *i-⌜ba-al⌝-e-ra-ah*
9. SAG.DU AN.TA *sa-ku-mè*(?)-*e*-^{d}IM
10. SAG.DU KI.TA *be-el-lum*
11. 1+1/3 SAR É.DÙ.DÙ.A
12. ÚS.SA AN.TA *mu-ut-*$^{d⌜}$*x*⌝
13. ÚS.SA KI.TA *ri-kum*
14. SAG.DU AN.TA *a-ku-ki*
15. SAG.DU KI.TA *su-ma-ab*
16. ŠU+NÍGIN 15 IKU A.ŠÀ
17. *ù* 1+1/3 SAR É.DÙ.DÙ.A
18. A.ŠÀ *ù* É *ša* É.GAL
19. *a+na ia-si-im-ma-har*

Lower Edge
20. DUMU *su-ma-at-e-ra-ah*
21. ^{m}*i-ṣi-su-mu-a-bi* LUGAL
22. IN.NA.AN.BA

37 Photographs: Numoto 2008, pl. 2.
38 Photographs: Numoto 2008, pl. 1.
39 Photographs: Numoto 2008, pl. 3 (Tab T06-8).

Rev.
23. A.ŠÀ *ù* É *na-aṣ-bu-um*
24. *ša la ba-aq-ri ù la an-du-ra-ri*
25. *ba-qí-ir i-ba-qa-ru*
26. *ni-iš* ^{d}*da-gan* ^{d}IM-*ma-ha-ni*
27. *ù i-ṣi-su-mu-a-bi i-ku-ul*
28. *ku-up-ra-am em-ma-am up-ta-áš*(?)-<*ša*>-*aš*
29. ù 30 MA.NA KÙ.BABBAR Ì.LÁ.E
30. ⌜IGI⌝ ^{m}⌜*su*⌝-*mu-ha-am-mi ša-pí-iṭ* ⌜URU(?).*qa*⌝-*ṭú-na-an*.KI
31. IGI ^{m}*bu-nu-ma-*^{d}IM IGI ^{m}*mu-tu-*^{d}*a-mi*
32. IGI *a-bu-ul-la-an* IGI *i-ba-li-im*
33. IGI *an-za-nu-um* IGI *i-ba-al-pí*-DINGIR
34. IGI *ì-lí-e-pu-uh* IGI *ha-am-mu-tar*
35. 1 GÍN (over IGI) *da-di-e-pu-uh* DUMU BI-*sa-ah*
36. IGI *ia-di-hi-im* DUMU *ha-am-mu-tar*
37. IGI *ha-li-li-im-*<<*im*>>
38. IGI *mu-ut-ha-li* IGI *qí-iš-*⌜*ti*⌝(?)-DINGIR
39. IGI ⌜*da-di-pa*⌝-*li-ih-*^{d}IM IGI *bu-ne*-DINGIR
40. IGI *ia-an-ṣí-ib-*^{d}*da-gan* IGI *mu-ut-aš-kur*
41. IGI *hi-iṣ-né-e-*^{d}IM SANGA

Upper Edge
42. ITI *ki-nu-nim* UD 16 KAM
43. MU *i-ṣi-su-mu-a-bi*
44. *tap-pí-iš-tam*
45. *iš-ku-nu*

Obv. Left Margin (from top to bottom):
NA$_4$ LUGAL NA$_4$ *mu-tu-*^{d}*a-mi* SANGA NA$_4$ *su-mu-ha-am-mi ša-pí-ṭi-im*

Rev. Left Margin (from bottom to top):
NA$_4$ *ha-am-mu-tar* NA$_4$ *an-za-nim* NA$_4$ *mu-ut-ha-li* NA$_4$ *da-di-e-pu-uh*

Translation:
(1) 10 ikû of field in the irrigation district of *pithatum*; upper long side: the Habur river; lower long side: Mut-banae; upper short side: the Habur river; lower short side: Saki[…]tum.
(6) 5 ikû of field in the irrigation district of *pithatum*; upper long side: Qīšti-El; lower long side: Ibāl-Erah; upper short side: Sakumē-Addu; lower short side: Bellum.
(11) 1 1/3 SAR of a built house; upper long side: Mut-[…]; lower long side: Rikum; upper short side: Akuki; lower short side: Sumâb(u).
(16) Total 15 ikû of fields and 1 1/3 SAR of (land with) a built house; (those are) the fields and house "of the palace." To Yasīm-Mahar, son of Sumāt-Erah, Iṣī-Sumuabi, the king, has granted (them).
(23) These fields and house are legally established as being not subject to claims or release.
(25) A claimant who makes a claim – as he ate an oath by Dagān, Addu of Mahanum and Iṣī-Sumuabi – will be smeared with hot asphalt and will pay 30 mina of silver.
(30) Witness: Sumu-Hammi, governor of Qaṭṭunān
(31) Witness: Bunuma-Addu; Witness: Mutu-Ami
(32) Witness: Abullān; Witness: Ibālim
(33) Witness: Anzanum; Witness: Ibal-pī-El
(34) Witness: Ilī-epuh; Witness: Hammûtar

(35) One shekel (of silver for) Dādī-epuh son of BIsah
(36) Witness: Yadihim son of Hammûtar
(37) Witness: Halilim
(38) Witness: Mut-halī; Witness: Qīšti-El
(39) Witness: Dādī-pālih-Addu; Witness: Bun-El
(40) Witness: Ianṣib-Dagān; Witness: Mut-Aškur
(41) Witness: Hiṣnē-Addu, the priest

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(42) Month of Kinūnum, Day 16.
(43-45) The Year: Iṣī-Sumuabi established a spillway of (the river)

Obv. Left Margin
Seal of the king Seal of Mutu-Ami, the priest Seal of Sumu-Hammi, the governor
Rev. Left Margin
Seal of Hammûtar Seal of Anzanum Seal of Mut-halī Seal of Dādī-epuh

ENVELOPE
1'. SAG.[DU KI.TA] ⌜*su-ma-bu*⌝
2'. ⌜15⌝ [IKU A.ŠÀ *ù* 1+1/3 SAR É] DÙ.DÙ.[(A)]
3'. *ša* [É.GAL]
4'. *a+na* [*ia-si-im-ma-h*]*ar*
5'. DUMU *s*[*u-ma-at-e-ra-a*]*h*
(space)
6'. ITI *ki-*⌜*nu-nim*⌝ ⌜UD 16⌝.[KAM]
Bottom Edge
7'. MU *i-ṣi-*⌜*su*⌝-[*mu-a-bi*]
8'. *tap-pí-iš-ta*[*m*]
9'. *iš-ku-nu*

Translation:
(1') [lower] short side: Sumâbu
(2'-3') 15 [ikû of fields and 1 1/3 SAR of (the land with) a house] built; (those are) "of [the palace]."
(4'-5') To [Yasīm-Mah]ar, son of S[umāt-Era]h
(6') Month of Kinūnum, Day 16.
(7'-9') The Year: Iṣī-Su[muabi] established a spillway of (the river).

Notes:

The tall rectangular shape of the tablet and the scripts, orthography and language all display Old Babylonian features. A series of unique phraseologies confirming and defending the completion of the property transaction (ll. 23-28; see below) most definitely reveal that this text belongs to the scribal tradition of the so called Hana-type texts which is used in the contracts found at the city of Terqa (Tell el-'Ašāra) and probably in its vicinity during the Old and Middle Babylonian periods.[40]

40 The Hana-type texts were written for a considerably long period after the decline of the kingdom of Mari; known texts date from the second half of the 18th century BC up to the 12/11th century BC (parallel to the reign of Tiglath-pileser I, king of Assyria). These texts from Terqa, as well as those of unclear provenance kept in museums and private collections, have been published in Rouault 1984 (Texts 1–10), Podany 2002 (Texts 1–3, 6–15 and 17), and Tsukimoto 2003. The characteristics of these texts and their variations through the ages were thoroughly investigated by A. Podany (Podany 2002, pp. 155–237), except for the latest text recently published by A. Tsukimoto (Tsukimoto 2003).

Seals on the tablet: The cylinder seals of seven persons, whose names or titles are noted on the left margins of the obverse and reverse, seem to have been rolled over all the faces of the tablet, though the details of the impressions placed over the cuneiform inscription are not easily recognized.[41] This sealing practice deviates from the custom of the Old Babylonian Hana texts, where the space of sealing is limited to the left margin of the tablet.[42] The first seal noted on the margin (on the obverse) is the "seal of the king (NA_4 LUGAL)." This king is certainly identical with "Iṣī-Sumuabi, the king," mentioned first in l. 21 as the giver of property, and then in l. 27 as the person in whose name, alongside two deities, the oath was taken. The other six seal holders (Mutu-Ami, Sumu-Hammi, Hammûtar, Anzanum, Mut-halī and Dādī-epuh) appear also in the list of witnesses in the main text (ll. 30, 31, 33, 34, 35, 38).

ll. 1 and 6: *pithatum*, or *pithātum* (pl.), is attested otherwise in Villard 1984 (= ARM 23), Text 590, l. 2. The term seems to be the name of an irrigation district, indicating its topographical feature. Villard has proposed interpreting the word as "champ de la bréche" or "champ du creux" in connection with the word *pithu*(*m*) "wound, gash" (ibid., p. 557).

ll. 1-15: The terms for the four sides of the field, i.e., ÚS.SA AN.TA/KI.TA and SAG.DU AN.TA/KI.TA, deviate from those used in the early Hana-type texts from Terqa, which attest ÚS.SA.DU AN.TA/KI.TA and SAG.KI 1-KAM/2-KAM (or SAG.KI AN.TA/KI.TA).[43]

ll. 23-24: The normalization and meaning of *na*-AZ-*bu-um* in the characteristic definition of property (*naṣbum ša lā baqrim u lā andurārim*) is in dispute. M.W. Chavalas proposed to understand the word in connection with the broadly known West-Semitic root *nṣb* "to stand, set, establish."[44] He translated the word in the contexts of the Terqa contracts as "guaranteed" or "irrevocable." However, as the later studies of M. Dietrich and D. Charpin pointed out, *naṣbum* must be a nominal/adjectival form, and it is used in apposition to or as an adjective modifier of various words, such as *eqlum, bītum, kirûm, mārum* and *ṭuppum*.[45] Dietrich suggested that *naṣbum* means "a commemorative stele, a document of contract" (Aufstellung, Stele, Dokument [für einen Vertragsabschluß]). This specification of *naṣbum* as a "monument/document" may go well with the juxtaposition *ṭuppum naṣbum*, which Dietrich interpreted appositively as "tablet (as) the document of contract" (Tafel als Vertragsdocument). Yet, I hesitate to follow this view when interpreting *naṣbum* placed after words representing real estate or human beings (*eqlum, bītum, kirûm, mārum*), though Dietrich manages to render: "(Was) das Feld/ das Haus / den Garten (betrifft:) – ein Vertragsdocument (von ihm ist vorhanden)." I have preferred here basically to follow Chavalas, interpreting *naṣbum* as meaning "(one whose status) (is) legally guaranteed/established." Accordingly, the passage in ARM 22/2, no. 328 ii; 1-2: *na*-AZ-*ba-am* IZ-ZI-*ib*-[*š*]*u*, which is certainly of significance for understanding the word *naṣbum* and the verbal root *nṣb*, may be interpreted as "he established for it the guaranteed legal status." Similarly, *ṭuppum naṣbum* may be "the tablet, i.e. document, legally guaranteed (in the proper formula and procedure)."

ll. 26-27: In other Old Babylonian Hana-type documents, the deities mentioned in the oath formula are consistently Dagān and Itūr-Mēr; occasionally Šamaš is added before Dagān.[46] Dagān and Itūr-Mēr must represent Terqa and Mari, respectively, and Šamaš is included as the patron god

41 An exception is a reasonably clear impression pressed on the left side of the tablet, where no wedges from the main body of text are inscribed. It contains the image of an ascending sun god, Šamaš, facing to the left, holding a saw with his right hand and stepping with one leg on terrain; he is faced on the left by a ruler wearing a toga, holding a sacrifice and followed by his servant depicted small. The three-line inscription placed on the left of the scene may include the name "Anzanum" in the first line.

42 Podany 2002, pp. 172 and 175–179.

43 Podany 2002, pp. 159f. and 224f.

44 Chavalas 1997, pp. 179–188, esp. 181, n. 12

45 Dietrich 2001, pp. 646–649; Charpin 2002, pp. 85–86.

46 Podany 2002, pp. 197 and 232.

of judgment.[47] Thus, the reference to *Addu-Mahani* or "Addu of Mahanum" in this tablet is unexpected. Mahanum is attested in the documents of Mari as the location of an important Bedouin assembly, being an eminent cult center of Addu, somewhere in the western part of the upper Jazira.[48] The inclusion of *Addu-Mahani* may reflect the position of Ṭābatum (certainly to be identified with Tell Taban[49]), close to Mahanum. The contract from Tell Taban then appears to have been sworn by the gods representing the suzerain city of Terqa, i.e. Dagān, and the client city of Ṭābatum, i.e., *Addu*-(*ša*)-*Mahani*(*m*). These two deities may also have represented the sedentary and nomadic populations in the region, respectively. The verb *īkul* "ate" reflects the idea that the person involved in the oath took symbolic food that was considered to turn into a destructive force which would act against him, in the case he breached the oath.[50]

l. 28: The emended verbal form *up-ta-áš*(?)-<*ša*>-*aš* (*pašāšum* Dt-stem; *-áš*(?)- looks like PA) has not been hitherto attested in the penalty clauses of the Hana-type contracts. The standard formulae are: *kuprum emmum ana qaqqadīšu iššappak/ikkappar* "hot asphalt will be poured/smeared on his head," or *kupram emmam qaqqassu ikkappar* "his head will be smeared with hot asphalt."[51] Thus, our passage includes a unique verbal use, lacking the patient, *qaqqassu* or *ana qaqqadīšu*. The subject of our passage must be *bāqir ibaqqaru* (l. 25), and the Dt-stem form of *pašāšum*, not listed in the major dictionaries (*AHw, CAD*), should carry a passive/reflexive force, meaning "to be smeared with …" or "to smear oneself with …".[52]

ll. 42-45 (// envelope, ll. 6'-9'): The month *kinūnum* is known as the seventh month in the standard calendar of Mari (see below). No year name had been known for Iṣī-Sumuabi until the discovery of this one and of another one found on Tab T05B-39 (see below), except for one on Joannès 2006, Text 16, of which only the royal name can be read (see below).

Text on the envelope: The text is inscribed on only a few parts of envelope—a summary of the contract on the upper part of the front face and, after a large blank, the date written from the lowest part of the same face to the bottom face. The abbreviated record on the envelope deviates from the norm of the Terqa contracts, as well as from Old Babylonian contracts in general, in which the whole text of the contract is reproduced on the envelope.[53]

Iṣī-Sumuabi and the Kingdom of Terqa

In the contract, Iṣī-Sumuabi, assuming the title "the king (LUGAL)" (l. 21), grants two large tracts of land property, totaling 15 ikû (c. 54,000 m^2), as well as a house, to Yasīm-Mahar son of Sumāt-Erah. The recorded year name (ll. 43-45) also commemorates a river-improvement project of Iṣī-Sumuabi "the king." Another year name referring to an achievement of his is also attested, as mentioned, in one of the administrative documents found together with the contract in trench 8 (Tab

47 Cf. Feliu 2003, pp. 145–146.

48 J.-M. Durand considers that Mahanum means the "encampment" of Bedouins and so could have been itinerant and not in one fixed place, though he has placed its location within the western part of the upper Jazirah, primarily south of Jebel Sinjar (Durand 2004, pp. 139–145). Cf. Schwemer 2001, p. 303; Charpin 2001.

49 The identification was defended by Heimpel 1996, pp. 105–106; cf. also Heimpel 2003, p. 626, s.v. Ṭabatum. The identification of Tell Taban with the Ṭābatu of the Middle Assyrian period (apparently identical with the Old Babylonian Ṭābatum) has been fully verified by the building inscriptions from Tell Taban and Tell Bderi (see above, n. 4). This also supports the identification of the Old Babylonian Ṭābatum with Tell Taban. This is further reinforced by the mention of this city name in some of the Old Babylonian letters addressed to Yasīm-Mahar, who was apparently residing at the site of Tell Taban: URU *ṭà-ba-tum*.KI (Tab T05B-44, l. 11), [URU *ṭà-b*]*a-tim*.KI (Tab T06-3+Tab T06-17, l. 3), [URU *ṭà*]-*ba-tim*.KI (Tab T06-9, l. 13).

50 Charpin 1997, p. 345; cf. Feliu 2003, p. 145, n. 486.

51 Podany 2002, pp. 194–196 and 234–236; Charpin 2002, p. 87 (with detailed linguistic analysis).

52 Cf. GAG, p. 121, §93c; Kouwenberg 1997, pp. 319ff.

53 A comparable case of abbreviated writing is found, however, on the envelope of a marriage contract from Nippur (Stone 1987, pp. 215 and pl. 36, Text 1, 3N-T 852, IM 58763). I owe D. Charpin gratitude for drawing my attention to this example.

T05B-39). It may read (ll. 24-25 [Top Edge]): MU *i-ṣi-su-mu-a-bi* LUGAL […] *a+na* ^{d}⌜UTU *ú-še-lu-ú*⌝ "The Year: Iṣi-Sumuabi the king dedicated […] for Šamaš." Furthermore, again as noted above, the two letters sent from Iṣī-Sumuabi to Yasīm-Mahar use the formula of letter orders sent from an overlord to his subject. All of these show that Iṣī-Sumuabi is a king residing outside of Tell Taban, ruling a considerably extensive area which included that city.

Fortunately for us, a king of the same name is attested also in one of the Hana-type contracts found at Terqa (Rouault 1984, Text 9), where the oath is taken in his name (*i-ṣi-su-mu-a-bu*), alongside those of the gods Dagān and Itūr-Mēr. Since the contract of Tell Taban is also formulated in the Hana-type format characteristic of the scribal tradition of Terqa (see above), there is no doubt that the two Iṣi-Sumuabu/i are one and the same person, the king of Terqa.[54] Thus, this king must have ruled from Terqa an extensive area along the Middle Euphrates and Habur, including Tell Taban, the ancient Ṭābatum.

It will be useful here to review the data about the earlier kings of Terqa. Some decades before the time of Iṣī-Sumuabi, Zimri-Lim of Mari ruled the Middle Euphrates and the Lower and Middle Habur areas, including the cities of Terqa and Ṭābatum. The latter city was ruled as a part of the district whose capital was Qaṭṭunān, which is believed to be located somewhere south of Ṭābatum.[55] When Hammurabi of Babylon conquered Mari, his military expedition probably reached as far as Tuttul (Tell Bi'a), a point far west of Terqa, so Terqa must have come under Hammurabi's control.[56] Thus, it is plausible that Hammurabi took under his own control the majority of the territory that formerly had belonged to the realm of Zimri-Lim, including the Middle Habur with Ṭābatum. Mari declined completely with its conquest by Hammurabi. Later, Terqa became the capital of an independent kingdom dominating the Middle Euphrates region. The three earliest kings, Yapah-Sumu[…], Iṣī-Sumuabu and Yadih-abu are mentioned in contracts from Terqa.[57] The chronological order of these rulers as given has become considerably certain on philological and prosopographical grounds.[58]

54 The name Iṣī-Sumuabi/u is interpreted as meaning "He has stemmed (lit. came out) from Sumuabum" (cf. Streck 2000, p. 157f. § 2.12, 'iṣī-nabû, fn. 2); the name Sumuabum itself means "descendant of fathers" (Streck 2000, p. 171, § 2.39 and passim). The onomastic element Sumuabum here is certainly intended to refer to the Sumuabum who has long been regarded as the founder of the first dynasty of Babylon; however, recent scholarship now suggests that he was a ruler contemporary to Sumu-la-el, the real dynastic founder, and was later added to the artificially formulated dynastic list of Babylon (Charpin 2004, pp. 80–86; Goddeeris 2002, pp. 319–325). Charpin suggests that Sumuabum could have been a sort of "*grand roi*," leading the assemblage of the Amorites (Charpin, ibid., p. 84). This proposal may well explain why the name Sumuabum was taken as an onomastic element into the names of a number of rulers in the Old Babylonian period (Gelb 1961, p. 31, n. 13; Charpin 2002, p. 66 with n. 31; cf. also Durand 1984, p. 132, for name patterns including the names of ancestors). Besides the name Iṣī-Sumuabi/u, there are attested, for example, Yapah-Sumuabi (see below) and Yarīm-Sumuabi (A, 3562: iii 3', edited in Durand 1997, p. 630). Limiting our scope to the name of Iṣī-Sumuabi/u, Podany noted earlier namesakes from the times of Sîn-muballiṭ and Sumu-la-el of Babylon, Narām-Sîn of Ešnunna, and Immerum of Sippar (Podany 2002, p. 35 with nn. 60-64). Another namesake, whose year name is attested in a document from Harradum (Hirbet ed-Deniye) (Joannès 2006, no. 16), is probably to be identified with our Iṣī-Sumuabu of Terqa (see below). The variation of the ending *–u* and *–i* in Iṣī-Sumuabi/u seems no obstacle for the identification: cf. the variations for the name as noted by Streck: *su-mu-a-bu-um, su-mu-a-bi-im, sa-mu-a-bi-im*, all of which can be in the nominative (Streck 2000, p. 171, § 2.39, and p. 270, § 3.18).

55 The administration of the Qaṭṭunān district is especially illustrated by the letters of the governors at Qaṭṭunān (Birot 1993, Guillot 1997; cf. Durand 1994). References to Ṭābatum in the texts from Mari and Chagar-Bazar have been collected by M. Wäfler (Wäfler 2001, pp. 176f. s.v. Ṭabatum). Several sites have been suggested as Qaṭṭunān, such as Tell Fadgami, Tell Šaddadi and Tell Ašamsani (Kessler 1980, p. 233, n. 858; Nashef 1982, p. 221, s.v. Qatni). It can be safely equated with the Qatni of the annals of Tukulti-Ninurta II (Grayson 1991, A.0.100.5, l. 109), as Birot noted (Birot 1993, pp. 7–8).

56 Stol 1976, p. 40; Charpin and Ziegler 2003, pp. 243–244. Cf. Charpin 2002, p. 64.

57 Yapah-Sumu[abu] in Rouault 1984, Text 8; Iṣi-Sumuabu in ibid., Text 9; Yadih-abu in ibid., Texts 1, 2, 3, 4, 5, 6 and 7. For the history of Terqa in the period after its rule by Hammurabi of Babylon, see Podany, 2002, pp. 1–56, and Charpin 2002, pp. 64–71.

58 Podany 2002, pp. 32–37, and Charpin, 2002, p. 64, n. 23. Podany reserved judgment about determining strictly the chronological order between the two earliest kings, Yapah-Sumu[abu] and Iṣī-Sumuabu, due to the lack of clear philological evidence in the contracts sworn to by their names, i.e., Rouault 1984, Texts 8 and 9 (ibid., p. 35). Charpin noted, however, that Ibāl-pī-El, mentioned with the title *šāpiṭum* as the first witness in a text dated to Yadih-abu (Rouault 1984, Text 3, l. 30), appears (without title) also in the first position in the row of witnesses in the document dated to Iṣī-Sumuabu (ibid., Text 9). Identifying these namesakes with each

The order also accords with the proposal of A. Podany.[59] She suggests that Yapah-Sumu[…] of Terqa is identical with a Yapah-Sumuabu mentioned with the title UGULA *Ha-na* in a document from Alalah.[60] Taking the title as implying that Yapah-Sumuabu was a Hanaean leader who escaped from Terqa before Hammurabi's military advance, Podany hypothesizes that this Hanaean leader returned later to found the independent kingdom of Terqa. Though no other sources are available about Yapah-Sumu[…]'s activities, it is possible, as Podany suggests, that Yapah-Sumu[abu] won the independence of Terqa when Samsuiluna lost extensive territories due to the great uprising in his 8th year (1742 BC, middle chronology), as shown by the year name.[61]

Sources about the reign of the next king Iṣī-Sumuabi were also scarce, but they have now considerably increased with the new texts from Tell Taban. As already seen, the new texts prove that his rule from Terqa extended as far as Ṭābatum. A recently published contract from Haradum (Hirbet ed-Deniye), c. 90 km downstream from Terqa on the Euphrates, is also dated by the name of Iṣī-Sumuabi.[62] This person, as Charpin suggests,[63] also is probably to be identified with the king of Terqa. Charpin further notes that Mut-Tehran and Abdu-Ami, persons mentioned in the Haradum contract, must have come from the city of Tehran—located not far south of Ṭābatum and probably north of Qaṭṭunān[64]—on the ground of their names, and guesses that they probably came to the fortress of Haradum on military duty. Thus, an extensive region along the Middle Euphrates and the Habur, including Haradum, Tehran and Ṭābatum, were under Iṣī-Sumuabi's control. In other words, his kingdom covered almost the entire territory once ruled by Zimri-Lim of Mari. The fact that the governor (*šāpiṭum*) of Qaṭṭunān is listed as the first witness in the contract edited above (l. 30) may well reflect that Ṭābatum was part of the Qaṭṭunān district. It should be noted in this connection that holders of the title *šāpiṭum* are attested as the first witness also in the contracts of Terqa,[65] which shows that the *šāpiṭum* often witnessed land transactions in his own city. Our Ṭābatum contract, however, illustrates that the *šāpiṭum* witnessed contracts also in a city where he did not reside, but which was under his jurisdiction, when the case was significant. One may further speculate based upon these pieces of information that Iṣī-Sumuabi continued to use the basic district divisions used by the kingdom of Mari, that is, Qaṭṭunān, Saggaratum and Terqa, setting aside the now deserted center of Mari.

Yadih-abu, who succeeded Iṣī-Sumuabi as king, seems to have maintained a realm extending along the Euphrates and the Habur for at least some time. Several of his year names attest to his construction works at Terqa and its vicinity.[66] M. Guichard properly read one of the year names as: "The year: Yadih-abu rebuilt Annunitum of *ṭà-ba-tim*,"[67] which implies of course that his rule was maintained along the middle Habur at least as far as Ṭābatum. In this connection, a surface find at Tell Taban from the just completed 2007 summer season expedition adds relevant data. It is an Old Babylonian tablet (Tab T07-3) listing barley rations. On the eroded surface of the tablet,

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other, Charpin argues that Iṣī-Sumuabu was probably the direct predecessor of Yadih-abu, thus chronologically after Yapah-Sumu[abu]. This Ibāl-pī-El, the *šāpiṭum*, is apparently different from another namesake mentioned in our contract from Tell Taban (l. 33); the former is the *šāpiṭum* or district governor of Terqa, and the latter is probably a local man from Ṭābatum or a nearby place in the Qaṭṭunān district.

59 Podany 2002, pp. 32–35.

60 Wiseman 1953, no. 56, l. 47.

61 Podany 2002, p. 35.

62 Joannès 2006, Text 16: MU *i-ṣí-su-mu-a-bi* (rest is lost).

63 Charpin 2006.

64 Cf. Heimpel 1996, p. 106; Birot 1993, p. 8.

65 Rouault 1984, Texts 3, l. 30 (Ibāl-pī-El, *šāpiṭim*); ibid, Text 5, l. 24 (Hiṣni-Dagān *šāpiṭi*).

66 The places of construction attested in the year names are: T[erqa] (Rouault 1984, Text 7, l. 12), Araite (ibid. Text 1, l. 42), Dunnum (ibid., Text 6, l. 51) and Ṭābatum (ibid, Text 5; see the next note). Cf. Podany 2002, pp. 38 with notes, 70-75. Araite and Dunnun are located on the Upper and Middle Euphrates (Kupper in Birot et al. 1979, pp. 5 and 10, s.v. Ara'itum, Dunnum).

67 Guichard 2003: *an-nu-n*[*i*]*-tam ša ṭà-ba-tim* (Rouault 1984, Text 5 envelope, l. 49) // *an-nu-ni-tam ša* MUNx (ibid., Text 5, l. 52).

about 50 personal names seem to be listed (calculated from the space), each preceded by the amount (one to seven GUR) of barley assigned to that person; the text concludes with the total amount of barley and the date (ll. 20ff.): "Total 163 GUR of barley. [The month] of Malkānum, Day 30, Year: Yadih-abu the king …".[68] This text, being found at Tell Taban, demonstrates Yadih-abu's control of Ṭābatum at some time in his reign. However, Terqa's control of extensive territory must have been seriously damaged when Samsuiluna of Babylon took Haradum in his 25th year (1725 BC)[69] and then finally defeated Yadih-abu in his 28th year (1722 BC).[70]

A. Podany has concluded from the prosopographical data in the texts of Terqa that the total regnal period of the three early kings of Terqa did not extend more than 20-30 years.[71] As seen above, this period probably started around the 8th year of Samsuiluna (1742 BC) and ended in his 28th year (1722 BC) or at a slightly later point in time. Since the number of attested year names of Yadih-abu shows that he reigned at least for eight years,[72] the preceding reign of Iṣī-Sumuabi should probably be dated around the 15th-20th years of Samsuiluna (c. 1735-30 BC).

The Status of Yasīm-Mahar and the Texts from the Trench 8

Another key in considering the nature of the texts from trench 8 is the status of Yasīm-Mahar[73] son of Sumat-Erah, who was granted the property by Iṣī-Sumuabi. The fields and house given to Yasīm-Mahar are specified in the contract as "the fields and house of the palace (AŠÀ *ú* É *šá* É.GAL)" (l. 18). It must be asked whether this means that the property was granted to belong to the palace of Yasīm-Mahar, or whether it was granted from the property of the royal palace of Terqa. The latter interpretation appears to suit the context better, since the former may (though not must) take a preposition such as "for" (*ana*) preceding "the fields and house of the palace." Furthermore, the fragmentary telegraphic reference to the property on the envelope (ll. 3'-5') defines it briefly as "(the property) of [the palace] to [Yasīm-Mah]ar son of S[umāt-Era]h" (*ša* [É.GAL] *a+na* [*ia-si-im-ma-h*]*ar* DUMU *s*[*u-ma-at-e-ra-a*]*h*) without mentioning the name of the giver Iṣī-Sumuabi. Accepting the given restoration as correct, the phrase "of [the palace]" probably specifies the giver, i.e., the palace of Terqa. Thus, the phrase in question in our contract does not prove that Yasīm-Mahar is a palace owner. However, other texts of trench 8 add further pieces of evidence that Yasīm-Mahar was the person of the highest rank at Ṭābatum. The majority of letters from trench 8 were, as mentioned, addressed to Yasīm-Mahar, and he was apparently residing at Tell Taban/Ṭābatum. The beginnings of the two letters sent by Iṣi-Sumuabi both instructively read: "Do not procrastinate about the city, the 'irrigated areas,' and the watch posts."[74] This demonstrates that Yasīm-Mahar was

68 (20) ŠU+NÍGIN 40 A.GÁR 3 GUR ŠE; (21) [ITI] *ma-al-ka-nim* UD 30 KAM; (22) ⌜MU⌝ *ia-di-ha-a-bu* ⌜LUGAL⌝; (23) ⌜*x x x x x x*⌝ (24) ⌜(*x*) *x x x x*⌝. The traces in ll. 23f. do not seem to fit any of the already known year names (Rouault 1984, Texts 1, 2, 3, 4, 5, 6 and 7). The extraordinarily large amount of barley suggests its need for an unusual event such as a military expedition.

69 The dates attested in the texts from Haradum show that Samsuiluna controlled Haradum by his 25th year at latest. See Joannès 2006, pp. 21–25; cf. Charpin 2006.

70 The defeat of Yadih-abu is commemorated by Samsuiluna's year name (Horsnell 1999, pp. 220–222 [Si 28]).

71 Podany 2002, p. 37.

72 (1) "Yadih-abu the king built the city Araite" (Rouault 1984, Text 1 with envelope); (2) "Yadih-abu the king built the gate of Addu," (ibid., Text 2 with envelope); (3) "Yadih-abu defeated his enemy" (ibid., Text 3); (4) "Yadih-abu the king built the wall of …" (ibid., Text 4); (5) "Yadih-abu the king renewed Annunitum of Ṭābatum" (ibid., Text 5 with envelope; see above n. 67); (6) "Yadih-abu the king built Dunnum" (ibid., Text 6); (7) "Yadih-abu the king [built(?)] the palace of T[erqa] (ibid., Text 7). For another year found on a tablet from Tell Taban, see above, n. 68.

73 The namesake is attested in Kupper 1950, no. 50. l. 16. The name is interpreted as meaning "Mahar has placed". Mahar is probably an Amorite deity (M. Birot in Birot et al. 1979, pp. 230 [Yasīm-Mahar] and 264 [Mahar]; Lambert 1987–1990).

74 *a-na* URU.KI *sa-la-hi-im ù ma-aṣ-ṣa-ra-tim ni-di a-hi-im la ta-ra-aš-ši* (Tab T05B-42, ll. 4-9 // Tab T05B-43, ll. 4-5). For the word *sal(a)hum* translated here as the "irrigated area (around the city)", see Durand 1988, p. 338, n. 20; Charpin 1993/94, p. 8 (*salḫû*) with bibliography; Durand 1998, pp. 86 and 522–523.

responsible for the whole of the city and its surroundings to his overlord of Terqa. In addition, the greeting formulae in two of the letters include statements such as "it is well with the gate of your (Yasīm-Mahar's) palace."[75] This suggests that Yasīm-Mahar was the palace owner and was probably the governor or local ruler of Ṭābatum nominated or authorized by the king of Terqa.

Given that Ṭābatum was placed under the authority of the district governor (*šāpiṭum*) of Qaṭṭunān (see above), Yasīm-Mahar represented Ṭābatum most probably by performing the office of *sugāgum*.[76] A letter of Zimri-Addu, the governor of Qaṭṭunān from the period of Zimri-Lim, reveals that a local ruler entitled *sugāgum* was continuously stationed at Ṭābatum, being given lands and obliged to pay taxes to the king of Mari.[77] It is plausible that this internal order at Ṭābatum was largely continued by the king(s) of Terqa. This royal grant contract was probably issued in the process of such an authorization of the local ruler by the king of Terqa.

The Calendar and the Cultural Milieu of Ṭābatum:

As seen above, the areas along the Middle Euphrates and the Middle-Lower Habur, including Terqa and Ṭābatum, belonged together as a single political entity under different ruling powers through the age; it was first ruled by Zimri-Lim of Mari, then by Hammurabi of Babylon, and eventually by the kings of Terqa. This regional unity was probably not only in the political field. The cultural affinity between Terqa and Ṭābatum can be observed in the calendar system, which is revealed in the above-noted monthly rotation list (Tab T05B-39) found in trench 8. The ten recorded month names read: ITI ^{d}IGI.KUR (l. 4), ITI *ki-nu-nim* (l. 6), ITI ^{d}*da-gan* (l. 8), ITI *li-li-*⌜*ia*⌝-⌜*tim*⌝ (l. 10), ITI ^{d}NIN-*bi-ri* (l. 12), ITI *ki-is-ki-súm* (l. 14), ITI *e-bu-rum* (l. 16), ITI *ú-ra-hu* (l. 18), ITI *ma-al-ka-nim* (l. 20) and ITI *la-ah-hi-im* (l. 22). These month names, which were no doubt in use at Ṭābatum, are practically identical with those of the standard calendar of the Old Babylonian Mari.[78] This set of month names is also largely the same as that attested in the Old Babylonian contracts from Terqa,[79] though the order of months has not been confirmed for the Terqa calendar (see Table 1 below). This remarkable affinity of the calendar systems of Mari, Terqa and Ṭābatum, as against the different ones in Babylonia and Northern Mesopotamia,[80] implies that a certain degree of cultural uniformity was maintained along the Middle Euphrates and Habur even after the decline of Mari. In other words, the cultural legacy of Mari survived in this broad area that was once ruled from Mari.

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75 *a-na* KÁ É.GAL-*li-ka šu-ul-mu*(-*um*) (Tab T05B-44, l. 6; Tab T06-1, ll. 6-7).

76 For this official of local tribal origin, see Fleming 2004, pp. 64–76. This official, attested often in the texts from Mari, is known also at Terqa after the decline of Mari, specifically in a contract from the time of Iṣī-Sumuabi (Rouault 1984, Text 9, l. 23: Bina-I[šta]r *sugāgu*).

77 Birot 1993, Text 107. The letter refers to two *sugāgum*s, i.e., Hammûtar, previously in the position, and his successor Yashadum. Though Hammûtar is a popular name, he might perhaps be identical with the Hammûtar mentioned in the above discussed royal grant contract from Tell Taban. Hammûtar appears not only as a witness and sealer (l. 34 and Rev. Margin), but also as the father of another witness, thus exhibiting his seniority and importance in the city (l. 36). The identification is chronologically not impossible, since the time gap between the two documents seems to be in the range of 20 to 30 years.

78 For the month names of Mari, see Charpin and Ziegler 2003, p. 156; cf. Hunger 1976–1980, p. 301; Cohen 1993, pp. 282–284. I would like to thank D. Shibata, who first drew my attention to the affinity of the month names of Tab T05B-39 with those of Mari.

79 Rouault 1984, Texts 1-7 and Podany 2002, Texts 1-3 and 6-9. As noted already by Podany (ibid., pp. 17 and 210), the month names known in the texts from the early period all reflect the continuous use of the Mari calendar, though new month names seem to have been introduced in later periods.

80 See Greengus 1987, pp. 209–229; Cohen 1993, pp. 225–280.

Table1: Month names attested from Mari, Terqa, and Ṭābatum[81]

Mari	Terqa	Ṭābatum
Urāhu(m)		Urāhu(m)
Malkānu(m)	Malkānu(m)	Malkānu(m)
Lahhu(m)		Lahhu(m)
Abu(m)		
Hibirtu(m)		
^{d}IGI.KUR	^{d}IGI.KUR.RA	^{d}IGI.KUR
Kinūnu(m)	Kinūnu(m)	Kinūnu(m)
^{d}Dagān		^{d}Dagān
Līliyātu(m)	Līliyātu(m)	Līliyātu(m)
^{d}Bēlet-bīri	^{d}Bēlet-bīri	^{d}Bēlet-bīri
Kiskissu(m)	Kiskissu(m)	Kiskissu(m)
Ebūru(m)	Ebūru(m)	Ebūru(m)
	Pagrû(m)	

* * *

Zimri-Lim of Mari entitled himself as "the king of Mari and the land of Hana (*šar Mari*.KI *u māt Hana*)."[82] We have still no evidence of how much of this self-definition was taken over by the earlier kings of Terqa or how they referred to themselves and their kingdom.[83] Nevertheless, the Old Babylonian textual finds from Tell Taban contribute significantly in clarifying new aspects of the political-cultural continuity on the Middle Euphrates and Habur areas from the time of Zimri-Lim to that of the early kings of Terqa.

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81 Pagrû(m) of the Terqa calendar (Rouault, Text 6: 49 [ITI pá-ag-re-e]) may be compared with the Alalakh and Ugarit month name Pagrû (ibid., p. 39, note to l. 49; cf. Cohen 1993, p. 372). The position of this month in the calendar system of Terqa is unclear. It was possibly not part of the standard calendar, though it was in secondary use at least some time in the Old Babylonian period. Also in Mari, several month names deviating from the standard set are attested (see Greengus 1987, pp. 221–222; cf. Cohen 1993, pp. 285–287). Of those month names, Pirizarrum, *alias* Birizarrum, is also known in a later document of Terqa (Podany 2002, Text 13, l. 29); the reading of the first sign BI as *pí* may be supported by the later spelling *pi-ri*-NUMUN(*zēri*) attested on the Middle Assyrian tablets of Tell Taban (Shibata 2007, p. 68). Malkānu (from the standard calendar), as well as Pagrû and Pirizarrum, survived in slightly changed forms (Malikā'u, Pagrā'u, Pirizēri) among the month names attested so far in the Middle Assyrian texts from Tell Taban (Shibata, ibid.).

82 Frayne 1990, E.4.6.12.4, ll. 6f.; E.4.6.12.5, ll. 4f. ; E.4.6.12.6, ll. 4f. The generally accepted restoration of Tuttul in the title of Zimri-Lim on three fragments, "the king of Mari, [Tuttul] and the land of [Hana]" (*šar Mari*.[KI *Tuttul*.KI] *u māt* [*Hana*.KI]) (ibid., E.4.6.12.3, ll. 3f.), has been properly criticized as philologically ill-founded, as it is solely based on analogy with the title of Yahdun-Lim (Charpin and Ziegler 2003, p. 182, n. 90).

83 Cf. Podany 2002, pp. 20 and 57ff. The title "the king of the land of Hana" (*šar māt Hana*) is attested as the standard title of the later kings of Terqa, from the 16th century BC onward.

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PPNB FRONTIER IN SOUTHERN JORDAN: A PRELIMINARY REPORT ON THE ARCHAEOLOGICAL SURVEYS AND SOUNDINGS IN THE JAFR BASIN, 1995-2005

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1. Introduction

The Jafr Basin is a large depression in southern Jordan, covering an area of ca. 15,000 km^2 of the Ma'an plateau (Bender 1968: 9, 1974: 8; Macumber 2001: 10). It forms an internal closed drainage system separated from the surrounding major water systems: Wadi al-Hasa to the north, Wadi as-Sirhan to the east, Wadi al-Hisma to the south, and Wadi ar-Araba to the west. The elevation of the basin is relatively high, ranging from ca. 900 m in its centre to ca. 1,200 m at the peripheral hilly countries. Topographically, it is characterized by gently undulating flint pavement deserts (or *Hamada* in Arabic) and dotted playas (or *Qa'* in Arabic).

The environmental condition of the basin is (and probably was) very harsh. Since the average annual rainfall in the central area is less than ca. 50 mm (Jordan National Geographic Center 1984: Fig. 114), no perennial natural water sources are available. The local vegetation is consequently very poor, being limited to thorny shrubs dotted on wadi beds. Furthermore, it is extremely hot in summer and very cold and stormy in winter. Thus the land, especially the core area east of the Desert Highway, has been sparsely used for seasonal pasturing only. Except for two oasis towns (i.e. Ma'an and al-Jafr), no traditional settlements exist. Although a few villages are dotted along the Desert Highway, they were founded in the recent past as a part of policies to promote the sedentarization of local pastoral nomads.

Such an unfavorable situation has affected archaeological research of the basin. Unlike the other areas in southern Jordan - Kerak (Worschech 1985; Miller 1991; Chesson et al. 2005), Wadi al-Hasa (MacDonald 1988; Coinman 1998, 2000; Neeley 2000; MacDonald et al. 2004), Wadi al-Faynan (Finlayson and Mithen 1998, 2007; Finlayson et al. 2000; Barker 2000), Petra (Gebel 1988; Schyle and Uerpmann 1988), Ghor and Wadi ar-Araba (Raikes 1980; MacDonald 1992; Henry et al. 2001, Bienkowski and Galor 2006), Wadi al-Hisma (Henry 1995), and the Aqaba area (Brückner et al. 2002), to list some - the Jafr Basin has been rarely investigated due to its seemingly poor archaeological potential as well as logistic difficulties. There were some pioneering explorations, but most of these were conducted before the 1970s (Glueck 1934, 1935, 1939, 1951; Rhotert 1938; Zeuner et al. 1957; Field 1960; Huckriede and Wieseman 1968; Bender 1968, 1974; Moumani 1997).

For this reason, the basin had been left as a large blank even in comprehensive archaeological site maps (Department of Antiquities of Jordan 1973; Palumbo 1994; MacDonald et al. 2001), when we started our project (JBPP: the Jafr Basin Prehistoric Project) in 1997 with a view to exploring the origins and development of pastoral nomadism in the southern Levant. No comparative material was available, to say nothing of a standard chronological framework to be referred to. Although this state has been remedied to some extent by reconnaissance surveys focusing on the northeastern part of the basin (Quintero and Wilke 1998; Quintero et al. 2001, 2003) and our continuous research in the northwestern part (Fujii 1998, 1999a, 1999b, 2000a, 2000c, 2001, 2002a, 2003, 2004a, 2004b,

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2005a, 2005b, 2006a, 2006b), much still remains obscure about the general occupational history of the basin.

In order to supplement the deficiency in basic information on the issue, we conducted general surveys and soundings intermittently from 1997 to 2005, in parallel with the major operations of JBPP. As a result, some seventy archaeological sites were located, several of which were briefly referred to elsewhere (Fujii 2002b). This report will focus on PPNB (i.e. Pre-Pottery Neolithic B) sites. A total of nine possible PPNB sites thus far identified in the basin will be described in some detail. It is beyond the scope of this brief report to enter an in-depth discussion, but a brief overview of their archaeological implications will be appended.

2. The Surveys and Soundings

Since the Jafr Basin was very large, our surveys were focused on its northwestern part. They covered an upside-down trapezoidal area encompassed by the following four sides: the hilly countries forming the northern watershed of the basin (to the north), the Husayniyya-Jafr road (to the south), the line connecting Jabal Gurta Siyata and Qa' Abu Tulayha (to the east), and the Desert Highway (to the west) (Fig. 1). It should be added, however, that a few sites beyond the Desert Highway were also registered on the occasion of a round of inspection in the neighboring areas. The surveys, as a whole, covered an area of ca. 300 km^2 – yet, merely a few percent of the total area of the basin.

The surveys were conducted nine times in total (Table 1). The first survey took place in 1995 as a preparatory inspection of the Jafr Basin, when the site of Qa' Abu Tulayha West, our main concern of the 1st phase of JBPP, was located. The subsequent three surveys from 1997 to 2000 (yet skipping 1999) were carried out in the intervals of the excavations at this site. The site registered during these four brief surveys totaled only a dozen. The main information source of our registered site list is the 2001/2002 winter season survey, which was conducted for about two weeks separately from the main operation of JBPP. The survey registered some thirty sites, which include the vast majority of PPNB sites referred to below. A few of these were sounded in order to collect stratified material. What followed it was the 2002 summer season survey, which located some twenty sites. The subsequent three surveys were of supplementary nature and registered only eight sites.

The surveys were not systematic in nature, because most of them were conducted intermittently in the intervals of the main operations of JBPP. In addition, they were purposive rather than comprehensive in that they gave the highest priority to Neolithic to EBA (i.e. Early Bronze Age) sites. This is because the primary goal of our project was to trace the process of pastoral nomadization in the basin. It should be emphasized, however, that any site ranging from Palaeolithic flint scatters to early Islamic hunting facilities, when encountered, were carefully examined and registered. (It is for this reason why a dozen Palaeolithic and post-EBA sites are included in the site list.) It should also be added that the priority of Neolithic to EBA sites was a natural consequence of the settlement pattern of the basin where, aside from post-Islamic non-descript mound tombs and enclosures, EBA sites are the commonest and followed by Neolithic sites. In this sense, we are convinced that our surveys kept a certain level of precision.

3. PPNB Sites in the Jafr Basin

As mentioned above, a total of nine possible PPNB sites have been located in our survey area and a few of these were sounded. Overall, they are small in site size, consisting of three outposts, a small flint workshop, and five flint scatters. The total absence of full-scale settlement sites is characteristic of the PPNB of the Jafr Basin. This is no wonder, however, seeing that the basin

constitutes the southeastern frontier of the PPNB cultural sphere. The following description begins with the outposts, followed by the less substantial sites.

JF-0116 (Jabal Juhayra)

This is among a few dozen sites that were first found during the 2001-2002 winter season survey and has briefly been reported elsewhere (Fujii 2002b). The site was situated at the southeastern flank of Jabal Juhayra, an isolated volcanic hill ca. 8 km northwest of al-Husayniyya (Fig. 2). It occupied a relatively steep slope facing the north, below which an erosional gully flows down southeastward (Fig. 3). The site size was estimated ca. 0.5 ha on the basis of the distribution of surface finds, flint artifacts in particular. Though much smaller in size than coeval sedentary settlements to the west, it is among the largest PPNB sites thus far located in the Jafr Basin. A test sounding conducted in the 2005 spring field season showed that cultural deposits were ca. 0.5 m thick, again a value much smaller than that of coeval sedentary settlements. Nevertheless, some wall alignments faintly visible on the present ground surface suggest that the site served as a small settlement containing at least several structures.

The question is concerned with the site function. Does the site represent a small yet year-round sedentary settlement or a seasonal outpost derived from a parent settlement probably to the west? Nothing specific can be said before excavations, but the second interpretation seems more likely in view of the small site size and the limited cultural deposits. The harsh environmental conditions around the site, the absence of a perennial water source in particular, also support the view that the site served as a seasonal outpost.

The surface collection contained several dozens flint artifacts and a few grinding implements made of limestone. With the exception of a handful of Roman-Byzantine pottery sherds, no ceramic finds were included. The flint collection was characterized by naviform core-and-blade components (Fig. 4: 1-10), an indicator of the PPNB flint assemblage. The collection also included a variety of implements (Fig. 4: 11-16). Since they were referred to elsewhere (Fujii 2002b: 41 and Fig. 3), we will only give a few noticeable points here. To begin with, the occurrence of bifacially pressure-flaked Amuq points (Fig. 4: 11) is suggestive of a Late PPNB (LPPNB) date for the assemblage. Second, the frequency of axes/adzes suggests that wood-processing and/or land cultivation was incorporated into major activities at the outpost (Fig. 4: 15, 16). Third, the occurrence of a few large querns hints at the exploitation of plant resources, although the absence of sickle elements with distinctive use gloss may be incompatible with the assumption.

Thus it seems likely that the site served as a PPNB agro-pastoral outpost. It is intriguing to hypothesize that as is the case with JF-0155 (Wadi Abu Tulayha) described below, it was used as a frontline base of short-distance transhumance between the Wadi Fidan drainage system to the west and the Jafr Basin to the east.

JF-0155 (Wadi Abu Tulayha)

This site, also first found during the 2001-2002 winter season survey, was located in the middle of flint strewn deserts ca. 25 km southeast of Jababl Juhayra described above. The investigation in the 2005 spring field season showed that the site, covering an area of ca. 1 ha, consisted of the following three distinct components; 1) a sizable PPNB outpost occupying the northwestern corner of the site; 2) a pair of EBA burial cairns (or cist enclosures in our terminology) overlying the outpost; 3) a stone-built barrage lying in the southeast of the outpost (Fig. 5-7).

A limited sounding at the PPNB outpost, our main concern, revealed a small composite structure at its southern end (Fig. 8). It was a semi-subterranean stone-built structure with a floor depth of ca. 0.4-0.5 m, consisting of a trapezoidal main room ca. 2-2.5 m each side and a semi-circular forecourt-like compartment ca. 2 m wide. While masonry walls of the main room were constructed

with four to six courses of horizontally put limestone and flint cobbles, those of the forecourt-like space were composed with a single course of upright slabs. In both cases, clay mortar and small rubble were used as adjustment material. Nothing specific can be said about the upper structure, but the volume of fallen stones around the structure suggested that the walls were originally at least some courses higher. The floor of the main room contained a clay-lined hearth ca. 50 cm in diameter, beside which a game board described below was found *in situ*. The floor also contained a few postholes, which were concentrated on its southern half. Likewise, the forecourt-like space produced a small hearth and a few postholes, but no clear evidence of an entrance was confirmed. In light of the distribution of several wall alignments faintly visible on the present ground surface, it appears that the site contained several similar structures and formed, as a whole, a small curvilinear settlement encompassing the communal forecourt to the east.

The excavated flint assemblage was characterized by the prevalence of naviform cores (Fig. 9: 1-5) and blades (Fig. 9: 6-12). The tool kit, on the other hand, was marked by the frequency of points (Fig. 9: 13-33). The predominance of Byblos and Amuq type points, coupled with the scarcity of Jericho type points, is suggestive of a LPPNB date for the assemblage. Burins, largely of a dihedral or angle type, also occurred to some extent (Fig. 10: 7-10). The tool kit also included finely serrated blades probably used for sickle elements (Fig. 10: 1), denticulates (Fig. 10: 2-4), borers/perforators (Fig. 10: 5), bifacially-retouched knives (Fig. 10: 6), end- and side-scrapers (Fig. 10: 11-13), and axes/adzes (Fig. 10: 14-15). In addition, flint hammers with a shattered end also occurred in small quantities (Fig. 10: 16-17). The occurrence of cores, debitage, and hammer stones as well as various retouched tools clearly indicates that the flint production tool place on the site.

The finds other than flint artifacts included a few flat querns and grinding slabs both made of flint or limestone (Fig. 11: 2). Of interest is the occurrence of a miniature vessel made of cortical flint (Fig. 10: 18), which are comparable with flint bowlets found at Basta (Nissen et al. 1991: Pl. III-1), Ba'ja (Gebel 1999), el-Hammeh (Makarewicz and Goodale 2004: Fig. 6), and 'Ayn el-Jammam (Rollefson 2005: Fig. 5). In addition, adornments made of cowry shell (Fig. 11: 3), bone (Fig. 11: 5), sandstone, and semi-precious stone were found in small quantities. Noteworthy is a small cylindrical clay object (Fig. 11: 4), which appears to bear affinities with geometric objects recovered from es-Sifiya, for example (Mahasneh and Gebel 1999). Also of interest is a limestone slab with eight small depressions arranged in two rows of four along its long sides (Fig. 11: 1). This unique find is comparable with 'gaming boards' found from Layer II and VI at Beidha (Kirkbride 1966: Fig. 8) and the PPNC context at 'Ain Ghazal (Rollefson 1992). In addition, faunal and floral remains also occurred in a fair amount.

In light of the small settlement size (ca. 0.05 ha) and the isolated site location in the middle of *Hamada*, it is most unlikely that the site served as a year-round sedentary settlement; rather, the use as a seasonal outpost seems more likely. Noticeable in this respect is the frequency of hunting weapons among retouched flint tools, which is suggestive of the site function as a hunting base. The rich occurrence of wild animal bones (mainly of gazelle, according to Dr. Hitomi Hongo's preliminary examination) also argues for the view. It is questionable, however, that the outpost was sustained by such an unpredictable subsistence only. It is important to note that domesticated sheep and goats, though in a limited percentage, did occur among excavated fauna (again, according to Dr. Hitomi Hongo's personal communication). This probably means that transhumance between the outpost and a parent settlement probably to the west was also incorporated into the subsistence strategy of the outpost. In addition, the existence of the neighboring stone-built barrage, coupled with the occurrence of heavy-duty grinding tools and finely-serrated blades (probably used for sickle elements), implies that the inhabitants of the outpost were also engaged in small-scale irrigated agriculture.

Given these, it follows that the outpost was based on a mixed economy consisting of hunting,

transhumance, and irrigated agriculture. Conversely, such a risk-diversifying subsistence strategy first made it possible to infiltrate into the arid periphery. In light of the construction of durable, energy-cost structures and the occurrence of a game board, it is conceivable that the seasonal outpost was used for a relatively long term every year, at least for more than a couple of weeks. Whatever the case, the identification of a PPNB agro-pastoral outpost in the middle of *Hamada* is noteworthy in that it might have paved the way to the pastoral nomadization that was actualized in the subsequent period.

JF-0206 (Wadi Burma North)

Wadi Burma is a small drainage system that rises in Tell Burma, an isolated volcanic hill ca. 5 km northeast of al-Husayniyya. It runs northwards for ca. 25 km along the Desert Highway to merge into Wadi al-Hasa. Thus, the water catchment area of this wadi, though located in the northwestern edge of the Jafr Basin, is included in the Wadi al-Hasa drainage system.

A pair of large cairn fields, Wadi Burma North (JF-0206) and South (JF-0204), was found along the uppermost stream of the wadi during the 2002 summer season survey (Fig. 12). Both of these were extensively investigated in the 2003 and 2004 field seasons, when a relatively large stone-built structure yielding PPNB flint artifacts was found roughly in the centre of an extensive sandbank between two tributary wadis (Fig. 13). This round structure was composed of two-rowed upright slab walls, measuring ca. 5.5-6 m in diameter. It was quite different in nature from surrounding burial cairns and, therefore, registered as an independent site (WBn-TU102). The excavation showed that it was built on the upper surface of Layer 3 of the site stratigraphy and, then, probably reused on the upper surface of Layer 2b.

Since the excavation has already been described elsewhere (Fujii 2005a), no repetition is needed here. Of significance is that it yielded two distinct flint assemblages. One was a PPNB assemblage, which consisted of naviform cores (Fig. 14: 1-4), bidirectionally-detached blades often with a punctiform striking platform (Fig. 14: 5-6), and a few Byblos type points (Fig. 14: 7). The other was an EBA assemblage, which included tabular scrapers, arched backed sickle blades, and robust drills with a long tip. It also included coarse ware sherds probably datable to the EBI on the basis of typological similarities to the finds from Wadi Fidan 4 (Adams 1999: Fig. 5.10), Wadi Faynan 100 (Wright et al. 1998: Fig. 8, no. 1-3) and Hujayrat al-Ghuzlan (Khalil and Eichmann 1999: Fig. 9, no. 4; Kerner 2003: Fig. 18; Brückner et al. 2002). It appears that these ceramic finds had something to do with the EBA flint assemblage described above.

What puzzled us was the fact that both PPNB and EBA artifacts occurred alongside through layers without any clear stratigraphic shift in ratio. This admits of various interpretations. A likely interpretation is that the structure was constructed by a PPNB group as an isolated outpost and, then, after a few millennia blank, reused as a temporary shed probably for the construction of the neighboring burial cairns. This explanation is consistent with the fact that the PPNB-LN desert fringe of the southern Levant witnessed the proliferation of two-rowed upright slab wall structures (Bar-Yosef 1981, 1982, 1985; Garrard et al. 1994; Goring-Morris 1993; Fujii 2000a, 2001). If this is the case, it follows that the contamination of finds through layers was caused by the slack sedimentation in arid peripheries. An alternative explanation is that an EBA group happened to construct the structure on the PPNB flint scatter and, then, reused it after a short interval. Neither of the two have conclusive evidence, but the fact remains that a small PPNB site, whether or not associated with a structure, did exist at this location.

JF-0106 (Tal'at Abu Tulayha)

This was also among a few dozen sites first found during the 2001-2002 winter season survey and occupied the flat top of an isolated hill along the upper stream of Wadi Ruweishid ash-Sharqi

(Fig. 15). Four small cairns were found on the hilltop: two larger cairns at the southwestern edge and the other two smaller cairns at the western edge. The hilltop was covered densely with flint chunks, among which the following two distinct assemblages were found.

One is a tabular scarper assemblage, which sparsely covered the whole range of the hilltop. Cores and wastes were predominant, but finished products were also included in limited numbers. Thus the site, in one aspect, can be defined as one of tabular scraper production sites that proliferated throughout the Jafr Basin from the Chalcolithic to the EBA. Jafr blades, another indicator of the EBA flint industry of the Jafr Basin, also occurred in small quantities. It is possible that the four small cairns referred to above have something to do with these EBA flint assemblages.

The other is a PPNB flint assemblage, which was concentrated on the western edge of the hilltop. The location yielding the surface finds was ca. 10 m long in the E-W direction and ca. 5 m long in the N-S direction, covering an area of ca. 50 square meters. In order to collect stratified samples, we opened a 2 m by 2 m square (Square A) at its eastern part where flint artifacts were scattered in the highest density (Fig. 16). However, as is often the case with desert sites, the sounding ended soon with reaching a sterile layer immediately below the present ground surface. Thus the vast majority of lithic finds occurred from the surface layer (ca. 1-2 cm thick) and the second layer (ca. 5-10 cm thick) followed it. No artifacts occurred from the third layer. Therefore, it seems that the second layer was their original contextual source.

Square A yielded several dozen flint artifacts. Considering its small area and thin deposits, this is a large volume, differentiating the site from other flint scatters. They consisted largely of naviform core-and-blade components (Fig. 17: 1-9). Of interest is the frequency of cortical cores (or the scarcity of bifacially-prepared cores), which is characteristic of the PPNB flint assemblages in the Jafr Basin endowed with tabular flint chunks (Quintero and Wilke 1995: 20). Retouched tools were much less frequent, consisting merely of a few angle burins on break (Fig. 17: 10, 11). The same applied to the surface collection around the square.

Both the predominance of cores and tool blanks and the scarcity of retouched tools indicate that the site, in the other aspect, can be defined as a primary flint knapping station left by a small PPNB group. A series of circumstantial evidence – the isolated site location in the middle of *Hamada*, the harsh environmental conditions around the site, the total absence of structural remains, and the abundance of flint raw material – also supports the functional identification suggested above. It is noteworthy, however, that angle burins (though not of on-truncation types but of on-break types) accounted for the vast majority of tools. This fact, along with the unique site location at the hilltop overlooking a major wadi system, is reminiscent of 'burin sites', a unique site-form that characterizes the Levantine arid peripheries in the PPNB and the subsequent period (Rollefson and Fröhlich 1982; Rollefson et al. 1982; Cauvin 1983; Betts 1982, 1985; Fujii et al. 1987).

JF-0501 (Wadi Abyda)

This small site was found by chance in the course of the investigation at Tal'at Abyda Cairn Field 1 (or JF-0208) that was conducted in the 2004 summer field season (Fujii 2005a). It occupied a gentle slope around a confluence of two tributary wadis below an escarpment, on which the cairn field was extended (Fig. 18). The escarpment exposed several layers of high quality Eocene flint, which probably provided raw material for the two distinct flint assemblages described below.

The site itself consisted of two areas and covered, as a whole, an area of ca. 0.2 ha. Area A was extended on the north bank of the southern wadi, containing a few small enclosures ca. 10-12 m in diameter. Area B, on the other hand, covered a triangular terrace between the two tributary wadis and contained a few large enclosures ca. 20-35 m in diameter. The enclosures were divided into some small sectors, but, in light of a clear stratigraphic gap between partition walls and the main body of the enclosure, the space division seems to be an episode in the recent past.

Aside from a few Levallois points and Jafr blades, the site produced two distinct flint assemblages. One was a tabular scraper assemblage, which occurred especially in and around the enclosures and contained a number of cores and cortical tool blanks. The other assemblage contained a dozen PPNB flint artifacts, which were concentrated on both banks of the northern wadi. They contained naviform cores and blades (Fig. 19: 1-6), which included a upsilon blade (Fig. 19: 5). Retouched tools were not included with the only exception of an adze-like heavy-duty tool (Fig. 19: 7).

The site can be defined as a small flint scatter. It is conceivable that a small PPNB foraging group took a rest on the wadi banks and spent a short time for *ad hoc* flint knapping, taking advantage of the abundance of raw material.

JF-9503 (Qa' Abu Tulayha West)

This unique funerary site was first found during the preliminary inspection tour in 1995. Lying halfway between al-Husayniyya and al-Jafr, it occupied a flat hilltop overlooking a small playa, Qa' Abu Tulayha, to the east. The site contained various forms of burial cairns, covering, as a whole, an area of ca. 30 ha. Six successive excavation seasons from 1997 to 2002 showed that the site consisted of the following two distinct funerary complexes: the Layer 4 (Late Neolithic) complex represented by a long chain of pseudo-house cairns and their subsequent forms, and the Layer 3 (EBA) complex comprised of four large enclosures incorporating several pseudo-wall cairns. This site stratigraphy contributed to the establishment of a chronological framework of the later prehistory of the Jafr Basin. The excavations also clarified the formation process of a pseudo-settlement as a unique funerary practice endemic to the post-PPNB Jafr Basin (Fujii 2000b, 2001, 2002c). In addition, they shed new light on flint mining strategies for the tabular scraper production (Fujii 2003: 210-220) and the chronology of Jafr blades thus far often referred to in a Palaeolithic context (Fujii 2002a: 34-36).

The final excavation season showed that a small number of PPNB flint artifacts were sparsely scattered at Square N-VI, the southeastern edge of the site (Fig. 20). They contained some naviform cores (Fig. 21: 1-2) and a few bifacial knives (Fig. 21:3-4), the latter of which were comparable with 'foliate bifaces' found at Dhuweila, a LPPNB-LN site in the Black Desert (Betts 1998: Fig. 4.26), and 'bifacial pieces' from Tuwailan sites tentatively dated to the PPNC horizon (Goring-Morris 1993: Fig. 7, no. 3-4; Goring-Morris et al. 1994: Fig. 4, no. 6-7 etc.). The low density of surface finds highlights an *ad hoc* nature of this small flint scatter site.

JF-9705 (Wadi Abu Safat)

This site, found by chance during the first excavation season at Qa' Abu Tulayha West, was situated near a confluence of Wadi Abu Safat and Wadi Ruweishid, two major drainage systems in the northwestern part of the Jafr Basin. This location falls on a point a few kilometers downstream of a Roman ephemeral camp tentatively defined by an aerial photographic interpretation (Kennedy 2004: 174). The site was extended over either banks of Wadi Abu Safat, covering an area of ca. 1-2 ha (Fig. 22). The east bank contained three large enclosures ca. 10-20 m in diameter and a few small round features, whereas the west bank was not associated with any conspicuous structural remains[1)].

Interestingly, the opposite was the case with the distribution of surface finds; while the east bank yielded only a small number of undiagnostic flakes and blades, the west bank produced some dozens of heterogeneous flint artifacts. They included a final Acheulian handaxe, microliths, PPNB

1) Our previous report suggested that the western bank contained an example of the QATW Layer 4 type pseudo-settlement (Fujii 2002b: 42-43), but the subsequent reexaminations showed that this was not the case.

components, tabular scrapers, and Jafr blades. The PPNB components, our main concern, consisted largely of naviform cores and blades (Fig. 23: 1-2). A robust tool, probably used for an adze, may also fall within the same assemblage (Fig. 23: 3). In light of the low density of lithic finds, the site can also be defined as a small flint scatter. It is interesting to note that there is a small natural dam (or *sedde* in Arabic) near the confluence, and that this area still remains a preferred hunting ground for local hare hunters.

JF-0104 (Wadi Ruweishid ash-Sharqi)

This site was first found during the 2001-2002 winter season survey. It was situated a few kilometers west of JF-0106 (Tal'at Abu Tulayha) described above, with the upper stream of Wadi Ruweishid ash-Sharqi in between. The site, covering an area of ca. 0.1 ha, contained a U-shaped freestanding stone-built wall ca. 50 m in total length that was constructed across a tributary wadi (Fig. 24). As with a similar feature at JF-0155 (Wadi Abu Tulayha), it may have been used as a barrage to collect seasonal runoff water of the wadi[2].

A limited number of flint artifacts were collected around the barrage. In addition to a few Levallois cores and flakes, they included a bi-directionally detached blade (Fig. 23: 4) and a bifacial knife (Fig. 23: 5), both probably of a PPNB to LN date. In view of the low density of surface finds, the site can be defined as a flint scatter left by a small foraging group. The question is concerned with the chronological correlation with the barrage, but nothing specific can be said before excavation.

JF-0109 (Wadi Abu Tulayha East)

This was also among some thirty sites first found during the2001-2002 winter season survey and located on an isolated hill along the west bank of the upper stream of Wadi Abu Tulayha ash-Sharqi. The site, covering an area of ca. 3 ha, consisted of a small cairn field on the flat hilltop and an extensive flint scatter over the eastern gentle slope (Fig. 25). The former contained four small cairns ca. 1.5-2 m in diameter. Since no datable surface finds were collected around them, nothing specific can be said about their date, except that they probably postdate the PPNB flint assemblage described below.

The eastern slope, on the other hand, was covered densely with weathered tabular flint chunks. A limited number of naviform cores (Fig. 23: 6) and blades (Fig. 23: 7) occurred mingled with them. In addition, tabular scrapers and Jafr blades also occurred in small quantities. The scarcity of surface finds allows us to define the site as a simple flint scatter.

4. Summary and Discussion

The survey and sounding results have enabled us to incorporate the Jafr Basin into the southeastern edge of the PPNB cultural sphere. It is now evident that the basin was by no means deserted during the PPNB period. This is not to say, however, that the basin was populated throughout the period. To date, no clear evidence for MPPNB sites, to say nothing of EPPNB sites, has been confirmed in the basin. Instead, available evidence suggests that the cultural infiltration into the basin did not begin before the LPPNB. It should be added, however, that further investigation might lead to a reconsideration of this tentative perspective.

The investigation results also suggest that the infiltration was *ad hoc* rather than substantial in nature. The evidence comes from the settlement pattern. The PPNB sites thus far identified in the basin are limited to two outposts associated with several structures (JF-0116: Jabal Juhayra and JF-

2) Our previous survey tentatively defined this feature as a pseudo-wall cairn enclosure (Fujii 2002b: 43). However, the excavated evidence from JF-0155 (Wadi Abu Tulayha) suggests that it was also a water catchment facility.

0155: Wadi Abu Tulayha), a base of operations possibly with a single structure (JF-0206: Wadi Burma North TU102), a small flint workshop (JF-0106: Tal'at Abu Tulayha), and some flint scatters (JF-0501: Wadi Abyda, JF-9503: Qa' Abu Tulayha West, JF-9705: Wadi Abu Safat, JF-0104: Wadi Ruweishid ash-Sharqi, and JF0109: Wadi Abu Tulayha East). No full-fledged sedentary settlement is included. This is probably because the harsh environmental conditions, the deficiency in water supply in particular, impeded a year-round habitation in the basin.

It is noteworthy, however, that a few outposts existed. Their existence highlights that the basin, though sparsely and on a seasonal basis, was incorporated into habitation areas for the PPNB population. There is little doubt that these outposts derived from the farming society to the west. The faunal evidence from JF-0155 (Wadi Abu Tulayha) strongly suggests that they were used for a base for transhumance as well as hunting. Given this, it follows that the PPNB Jafr Basin, at least its northwestern part, served as a seasonal pastoral hinterland for the sedentary farming communities to the west. Nevertheless, such outposts were rather exceptional. The prevalence of small ephemeral sites clearly indicates that flint exploitation, probably in association with seasonal foraging, was a major aspect of the PPNB land use of the basin. This is understandable, seeing that the basin is rich in high quality Eocene flint.

Taken together, it follows that the first Neolithic infiltration into the Jafr Basin took place as late as in the LPPNB, and that it was based on transhumance and seasonal foraging in combination with flint exploitation. It appears, however, that this is the case with its northwestern part only. Things seem different in the other areas of the basin. To date, no clear evidence for PPNB sites has been attested to in the northeastern part (Quintero and Wilke 1998; Quintero et al. 2002). It makes sense that the same is true with the southern half of the basin, seeing that the area is still more deficient in both water supply and flint resource. These observations suggest that the land use of the LPPNB Jafr Basin was basically concentrated on its northwestern part nearer to the farming society to the west.

In conclusion, a few remarks should be made about archaeological implications of the Jafr PPNB. To begin with, it has pushed the PPNB frontier forward in the southeastern direction to a large extent. It will not be very long before the PPNB or PPNB-related cultures of more inland areas such as Wadi as-Sirhan come into our sight. Second, the Jafr PPNB bridges the Azraq/Jilat PPNB to the north and the Hisma/Negev/Sinai PPNB to the south, thus promoting a comparative study of the Badia PPNB in the southern Levant. Third and more importantly, the Jafr PPNB provides a key to tracing the pastoral nomadization in the area as far back as its very beginning, namely, the stage of short-distance transhumance. This is important all the more because this epoch-making episode resulted in the establishment of the social dimorphism characteristic of the subsequent Near East. Fourth, the Jafr PPNB sheds new light on the LPPNB mega-site phenomenon in southern Jordan from another angle (Gebel 2004). It is now obvious that the phenomenon should be understood in a broader context including the Jafr Basin. The archaeological implications of the Jafr PPNB are not reduced because of its peripheral nature; rather, one can argue that they increase precisely because of its marginal character.

5. Concluding Remarks

The series of archaeological surveys and soundings have enabled us to confirm the existence of the Jafr PPNB. Nevertheless, this is but the first step in an effort to understand the archaeological potential of the basin. Full-scale excavations at a few key sites, JF-0155 (or Wadi Abu Tulayha) for example, would hopefully provide further insights into the marginal PPNB.

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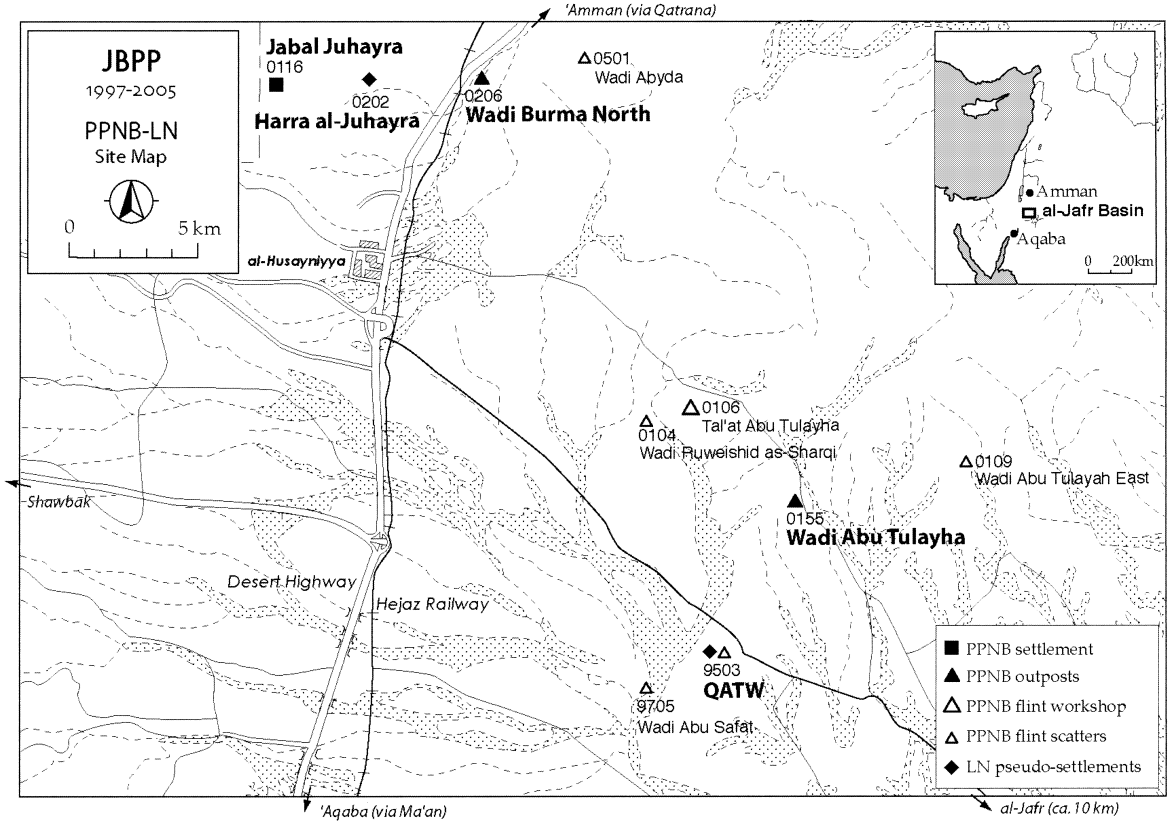

Fig. 1 PPNB sites in the northwestern part of the Jafr Basin.

Fig. 2 JF-0116 (Jabal Juhayra): distant view (looking west).

Fig. 3 JF-0116 (Jabal Juhayra): general view (looking southeast).

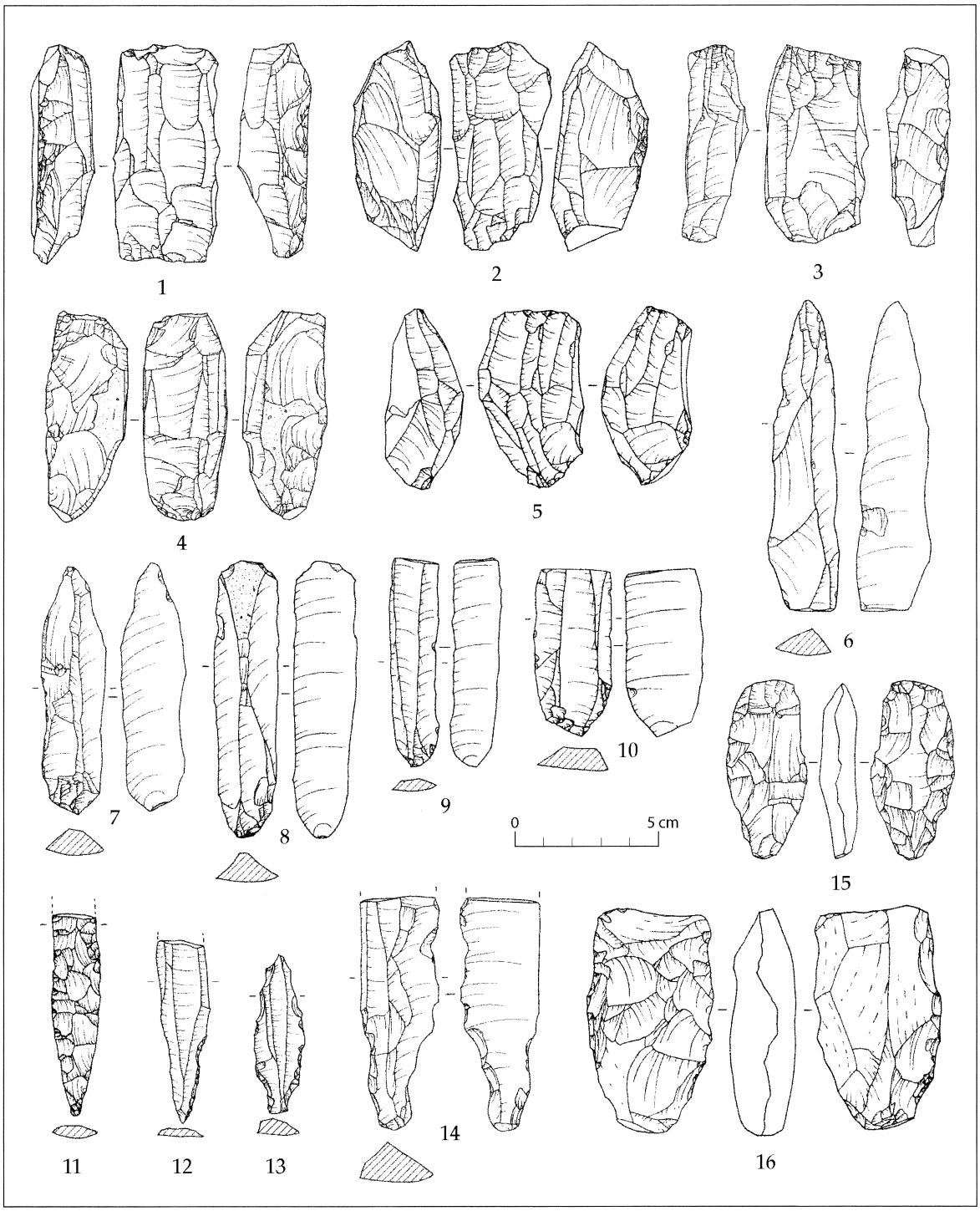

Fig. 4 JF-0116 (Jabal Juhayra): lithic finds.

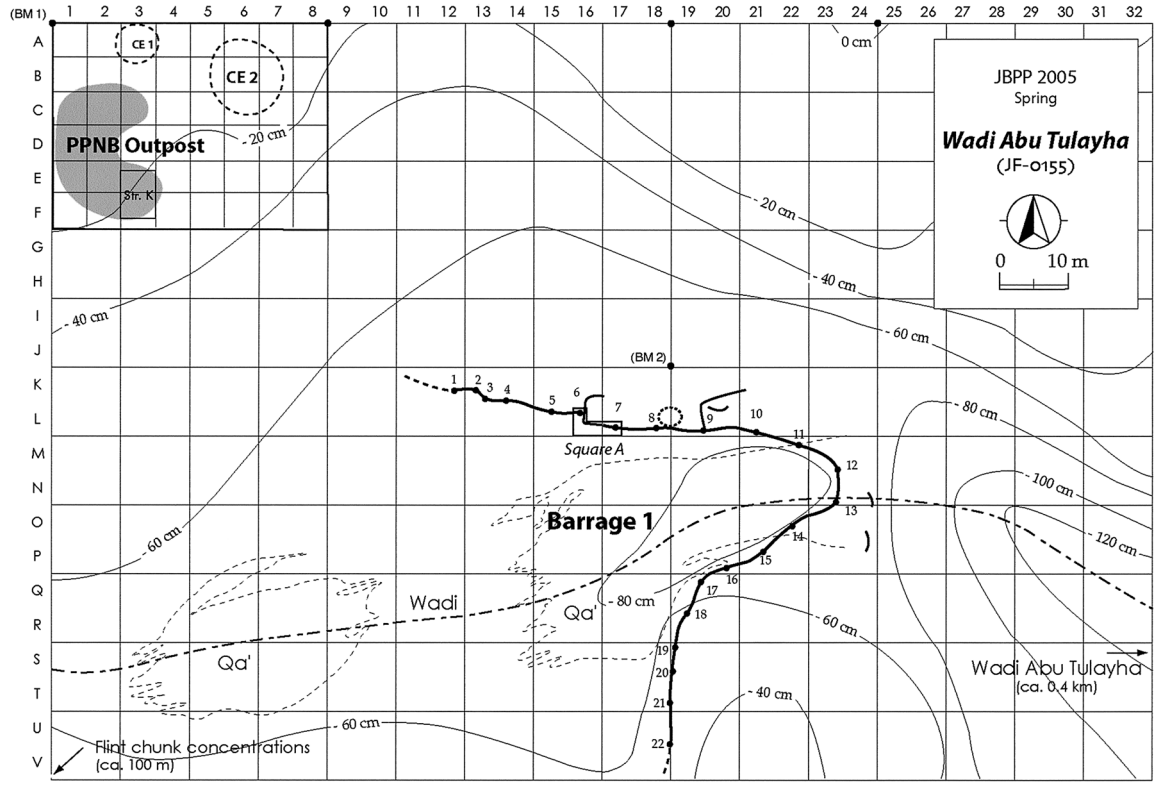

Fig. 5 JF-0155 (Wadi Abu Tulayha): site plan.

Fig. 6 JF-0155 (Wadi Abu Tulayha): general view (looking northwest).

Fig. 7 JF-0155 (Wadi Abu Tulayha): general view of Barrage 1 (looking west).

Fig. 8 JF-0155 (Wadi Abu Tulayha): Structure 1 (looking north).

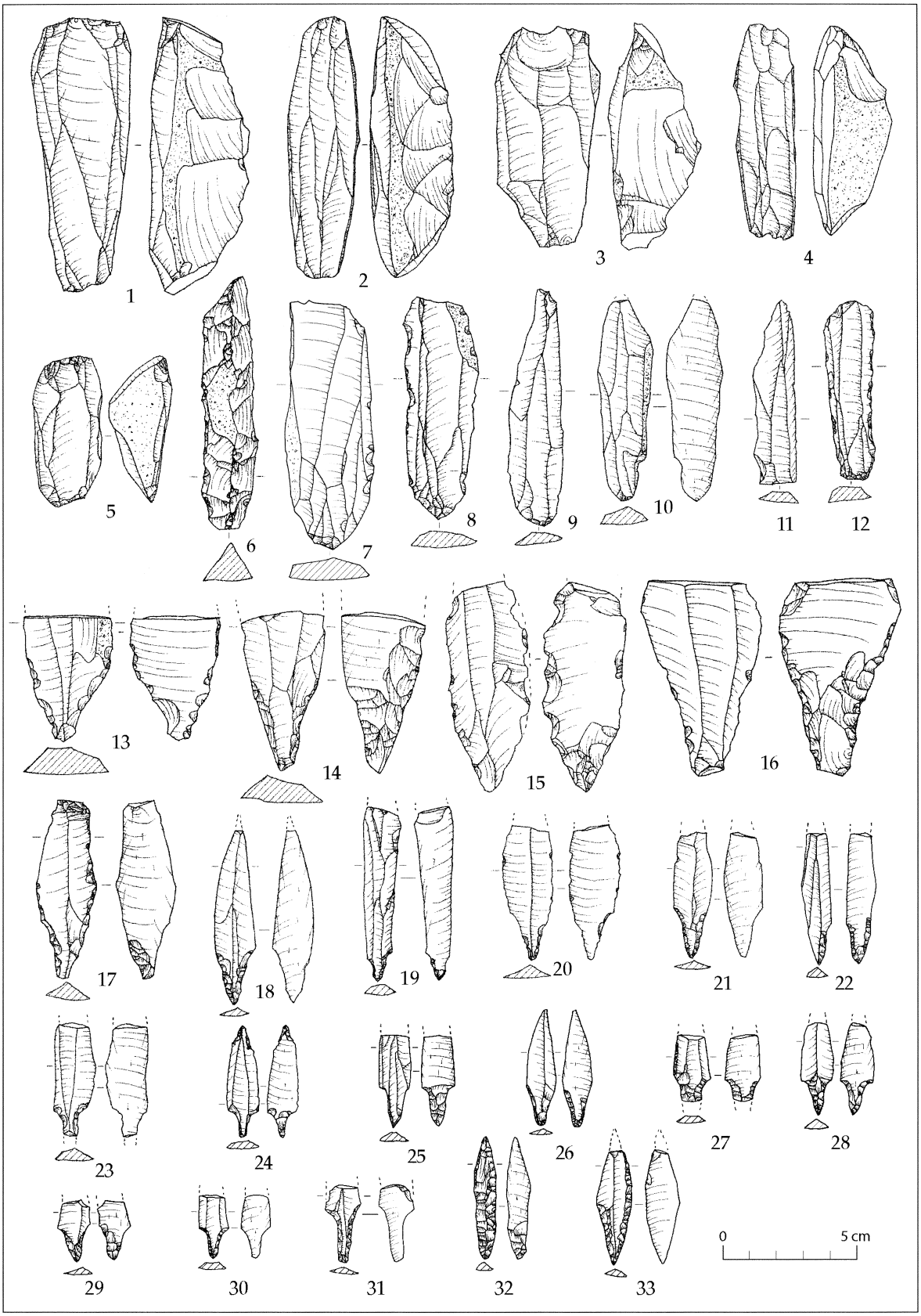

Fig. 9 JF-0155 (Wadi Abu Tulayha): lithic finds from Structure 1.

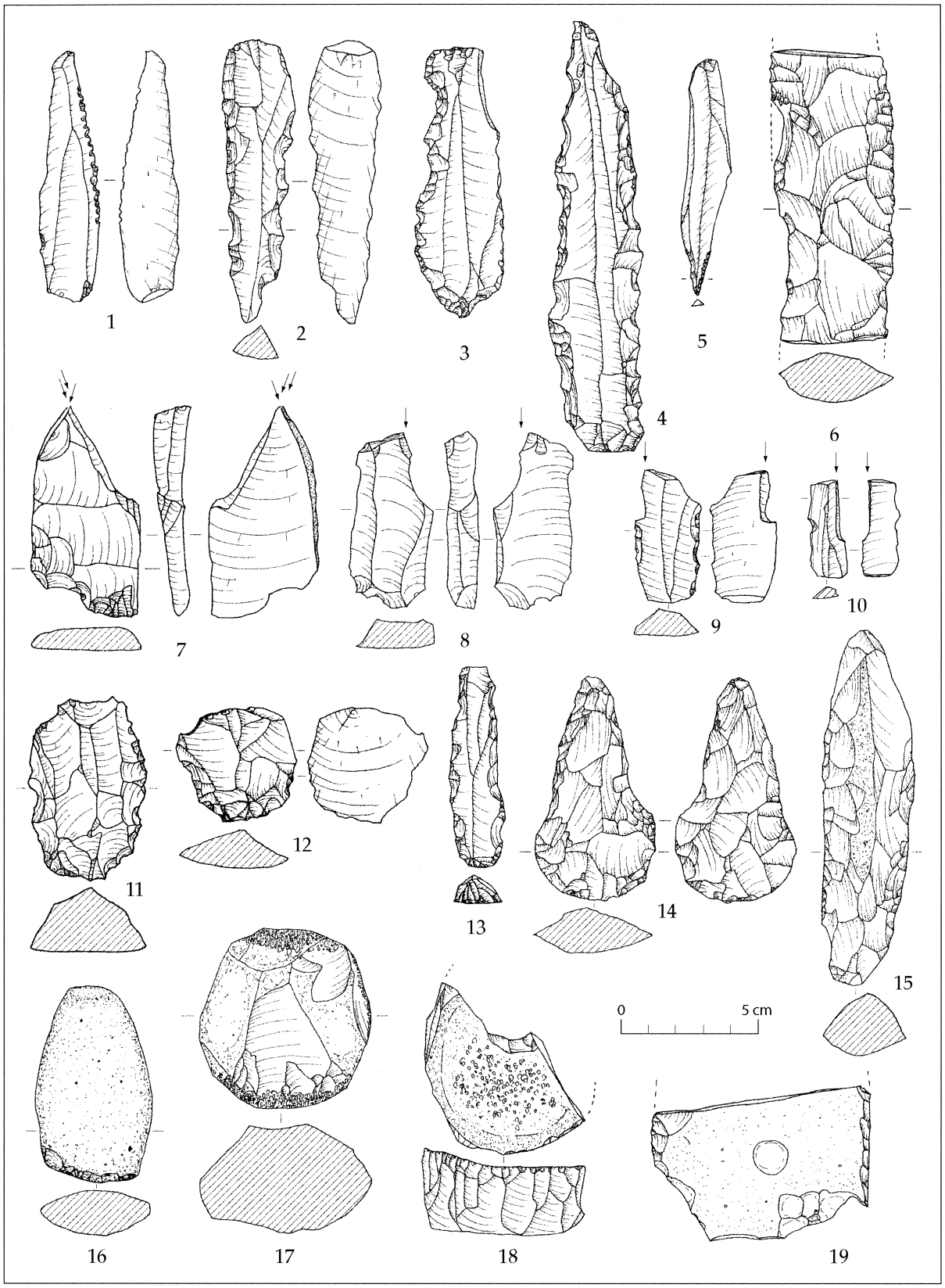

Fig. 10 JF-0155 (Wadi Abu Tulayha): lithic finds from Structure 1.

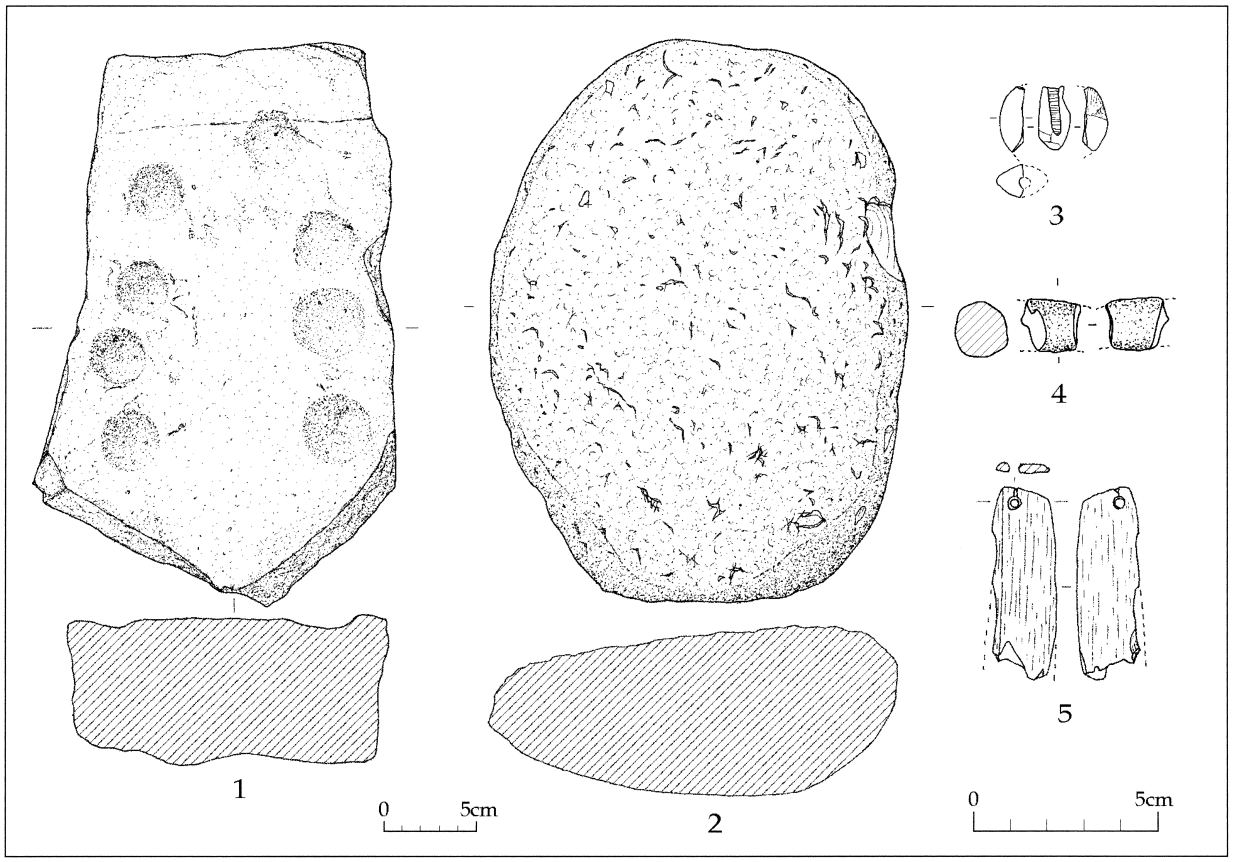

Fig. 11 JF-0155 (Wadi Abu Tulayha): miscellaneous finds from Structure 1.

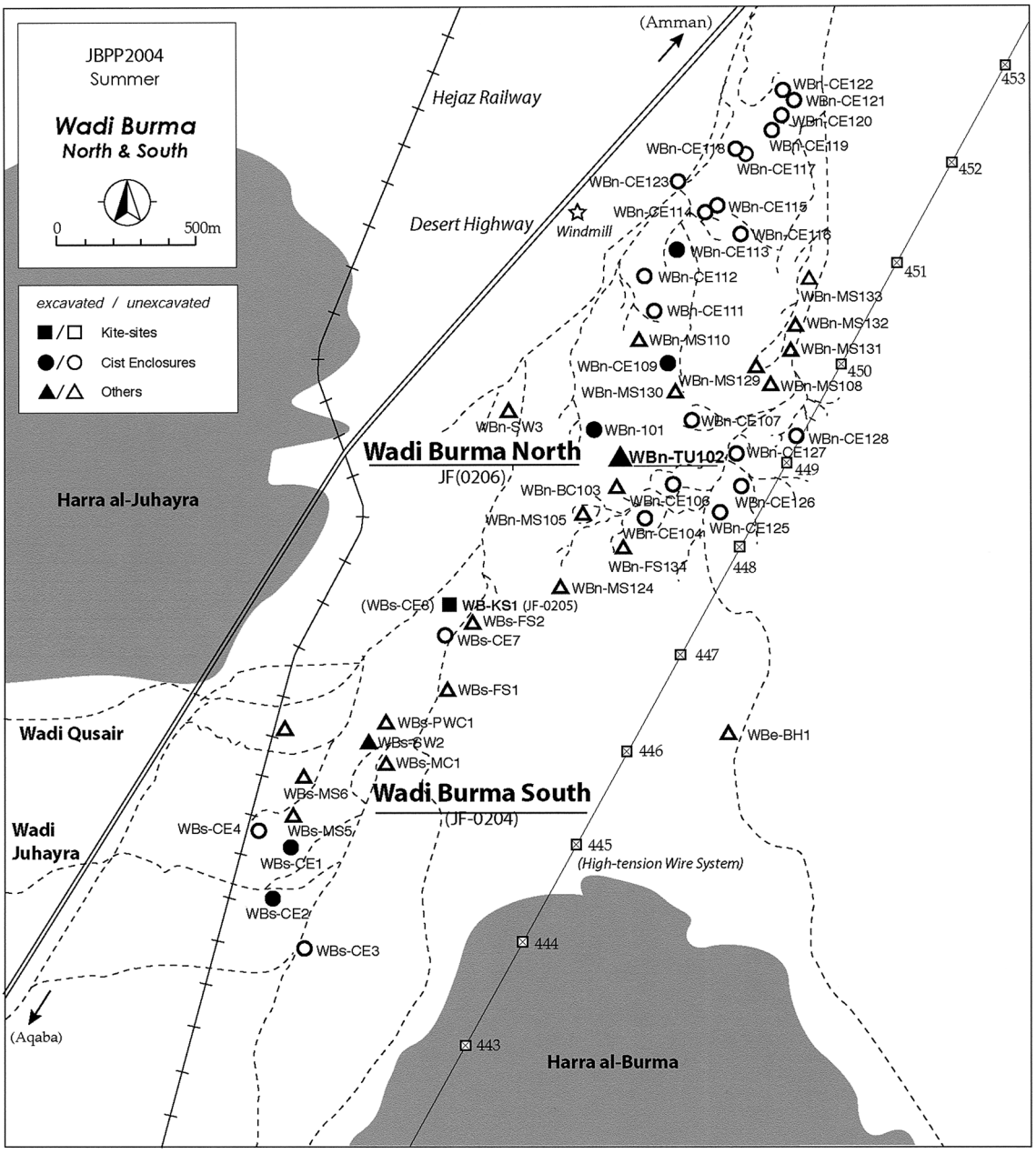

Fig. 12 Site map of the Wadi Burma area.

Fig. 13 JF-0206 (Wadi Burma North): structural remain at TU-102 (looking northwest).

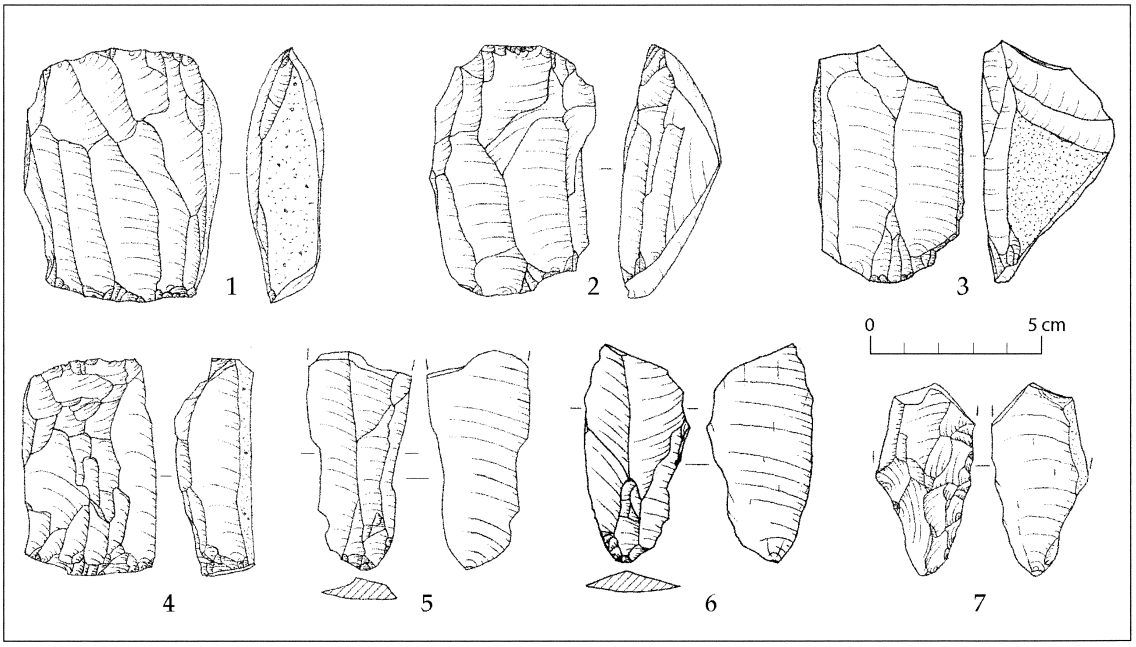

Fig. 14 JF-0206 (Wadi Burma North): lithic finds from TU-102.

Fig. 15 JF-0106 (Tal'at Abu Tulayha): distant view (looking northeast).

Fig. 16 JF-0106 (Tal'at Abu Tulayha): Square A (looking northwest).

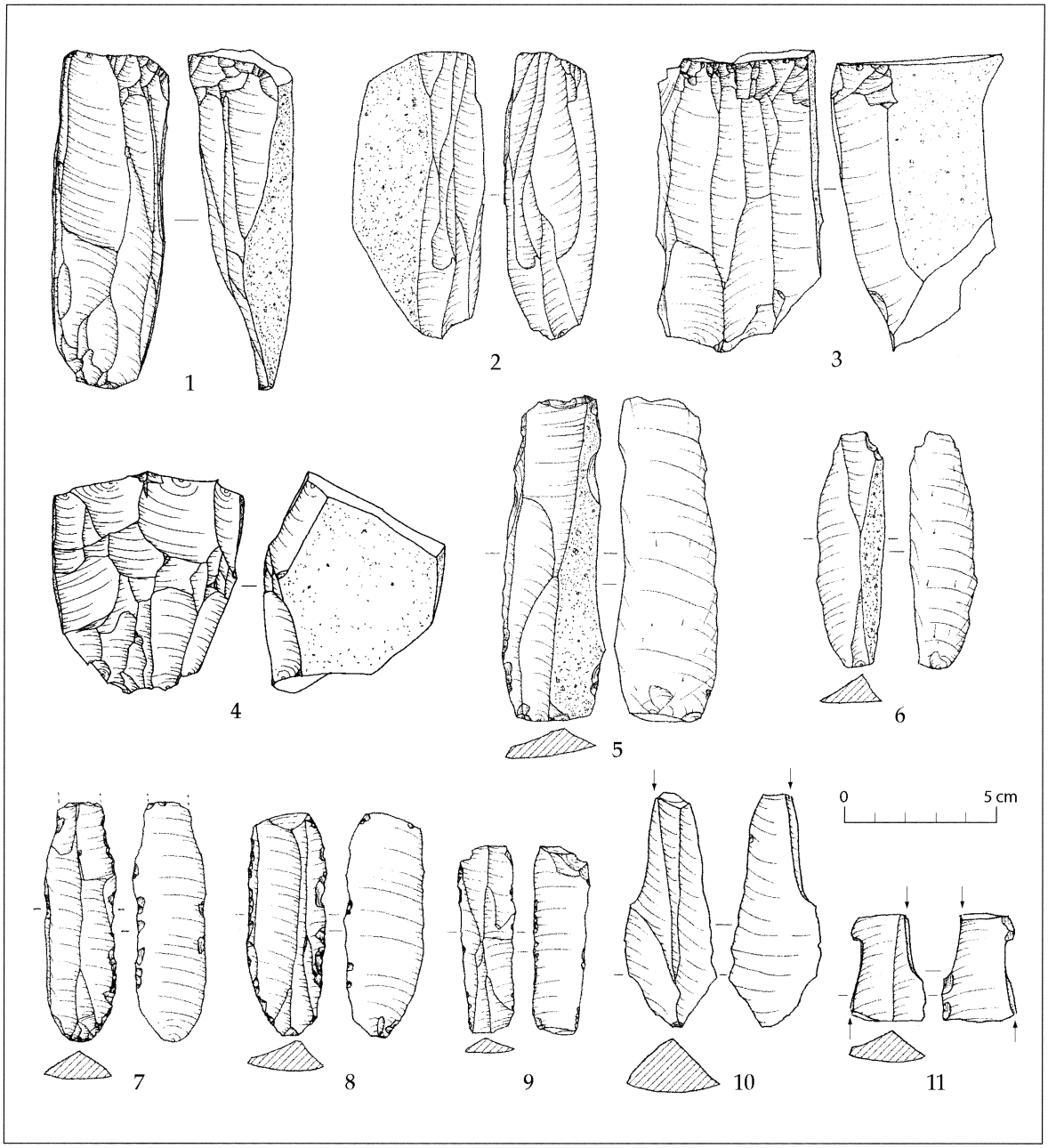

Fig. 17 JF-0106 (Tal'at Abu Tulayha): lithic finds from Square A.

Fig. 18 JF-0501 (Wadi Abyda): distant view (looking east).

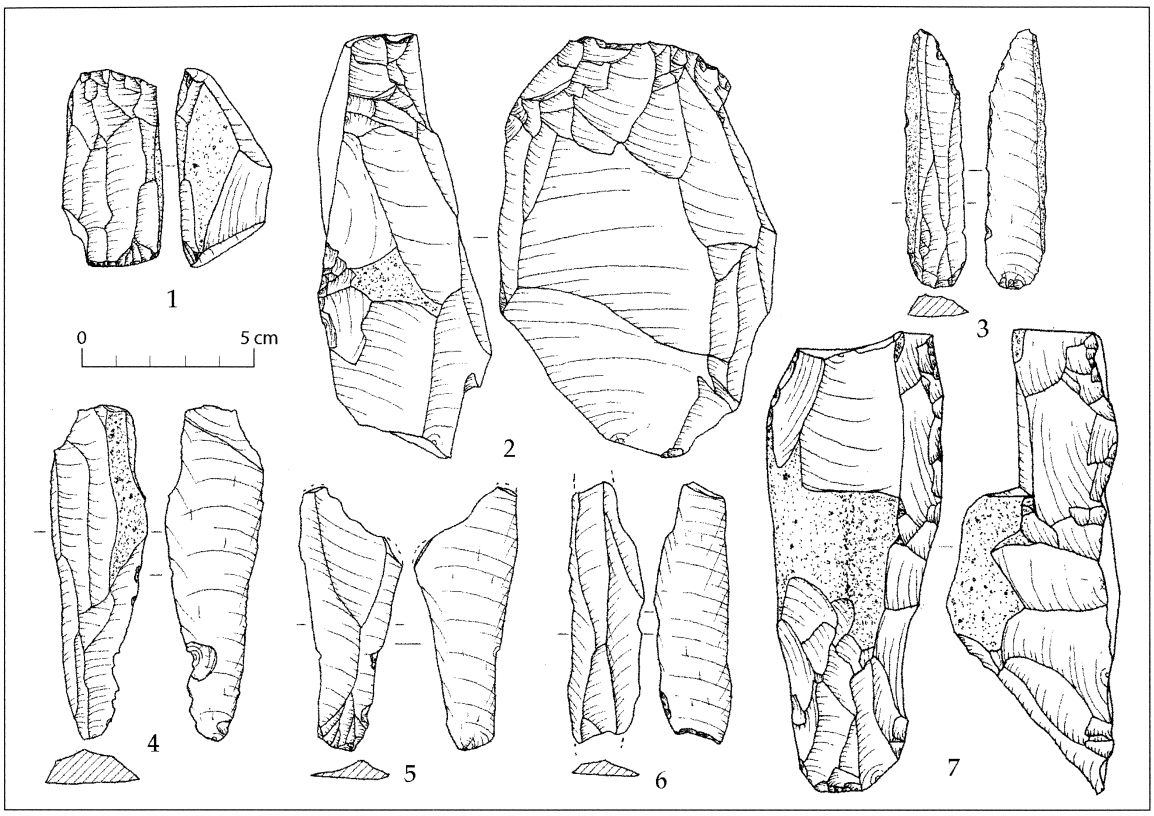

Fig. 19 JF-0501 (Wadi Abyda): lithic finds.

Fig. 20 JF-9503 (Qa' Abu Tulayha West): general view of Square N-VI (looking northeast).

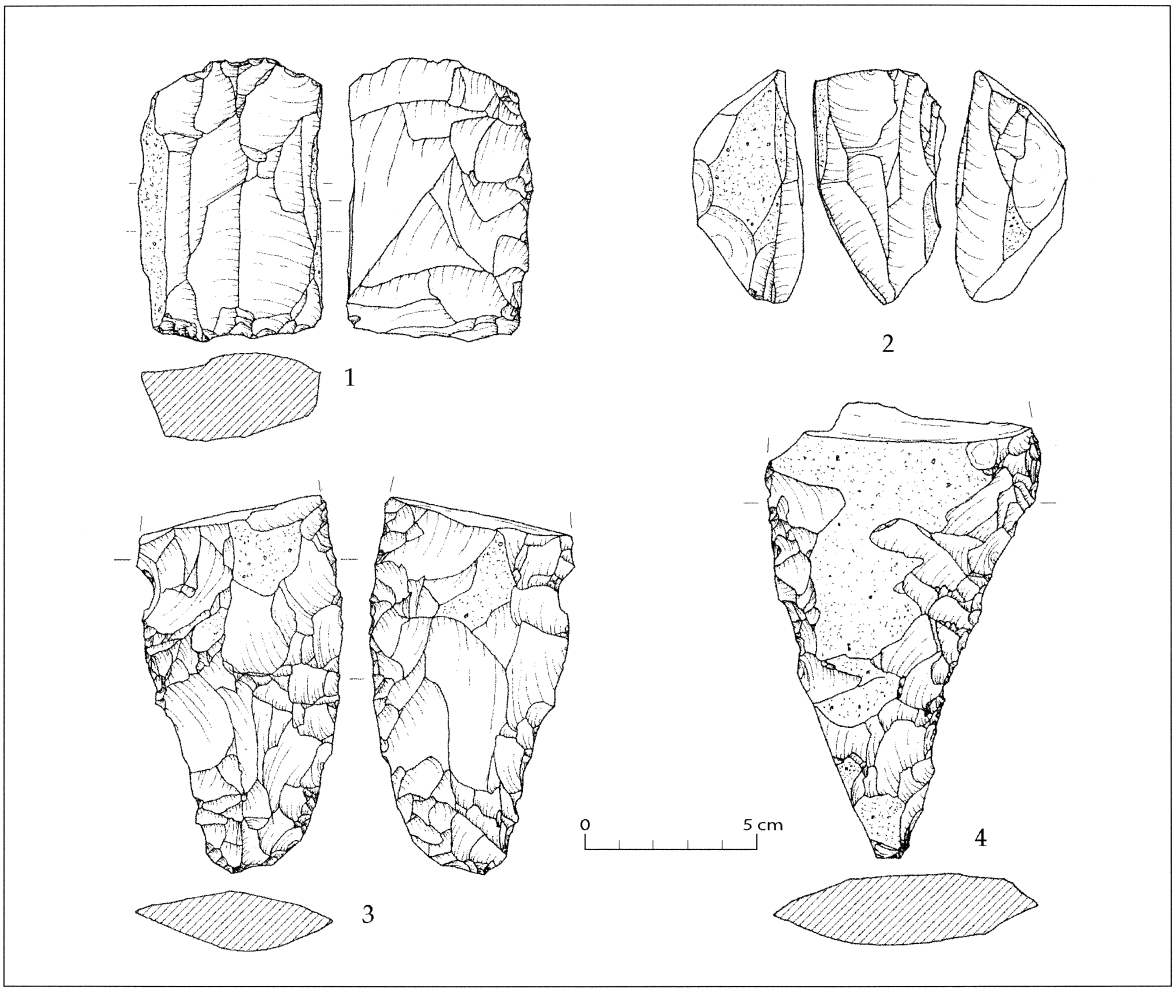

Fig. 21 JF-9503 (Qa' Abu Tulayha West): lithic finds from Square N-VI.

Fig. 22 JF-9705 (Wadi Abu Safat): general view (looking southeast).

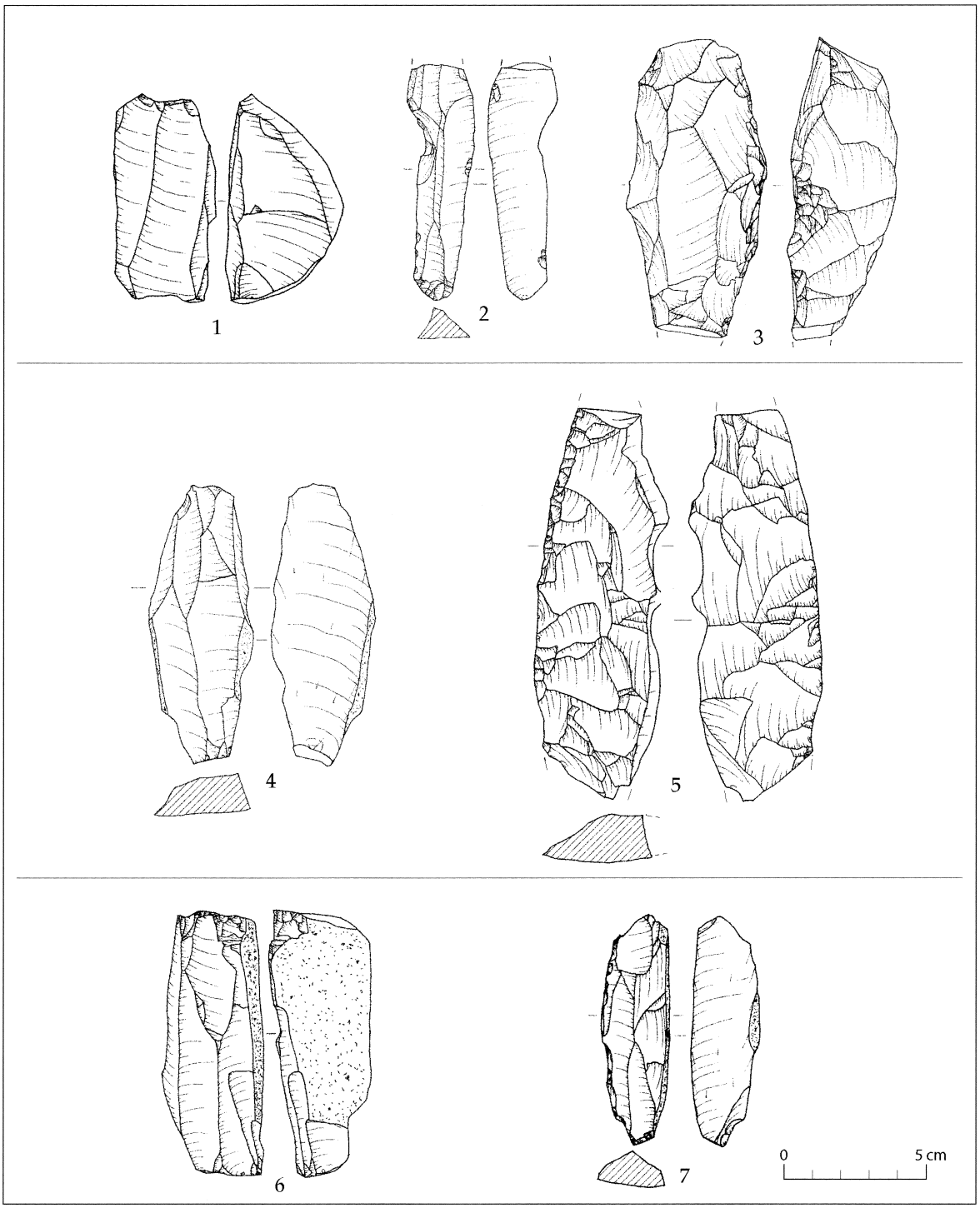

Fig. 23 Lithic finds: No. 1-3 from JF-9705 (Wadi Abu Safat), no. 4-5 from JF-0104 (Wadi Ruweishid ash-Sharqi), and no. 6-7 from JF-0109 (Wadi Abu Tulayha East).

Fig. 24 JF-0104 (Wadi Ruweishid ash-Sharqi): general view (looking south).

Fig. 25 JF-0109 (Wadi Abu Tulayha East): general view (looking south).

Table 1 Surveyed Sties of the Jafr Basin Prehistoric Project, 1995-2005.

No.	Site/Area	Code	Excavation	N / E	Altitude (m)	Features / Site Nature	Site Size (m)	Peirod	Primary Finds	Reference
1995-2000 SURVEYS										
9503	Qa Abu Ttulayha West	QATW	1997-2002	30°27' 983"/ 035°56' 950"	980	Pseudo-settlements, Flint mines	ca. 20ha	LN, CH-EB	TS/JB	Fujii 1996-2003
9503'	**QATW (Sq.N-VI)**	-	2002	30°27' 403"/ 035°56' 464"	1,010	Flint scatter	30 x 50	PPNB-LN	NV, bifacial knives	Fujii 2002b
9701	Wadi Abu Hathaneh	-	-	30°31' 684"/ 035°51' 322"	1,037	large enclosures, Cairns	500 x 200	CH-EB	LV, microliths, TS/JB, EB sherds	-
9702	NW hammada	-	-	30°33' 816"/ 035°48' 620"	1,074	Enclosures, Cairns	200 x 100	CH-EB	LV, microliths, TS/JB, hammers	-
9703	below QATW	-	-	30°27' 496"/ 035°56' 664"	998	Cairn circle?	15 x 15	-	LV, microliths, JB	-
9704	Qa Abu Tulayha East	QATE	2002	30°27' 960"/ 035°57' 089"	1,009	Lithic production	1.5 km x 50	CH-EB	TS	Fujii 1998, 2003
9705	Wadi Abu Safat	-	-	30°26' 662"/ 035°54' 597"	988	Enclosures, Flint scatter	100 x 30	LP, EPI, PPNB, EB	HA, mircroliths, NV, JB, anvils	Fujii 2002b
9706	below QATE	-	-	30°27' 777"/ 035°56' 993"	1,004	QATW L.3 type cairn enclosure	100 x 20	CH-EB	TS/JB, anvilstones	-
9801	Wadi Ayliyah	-	-	30°30' 969"/ 036°02' 458"	994	Round structures	35 x 25	-	TS/JB, basalt quen	-
0001	Khirbet al-Juhayra	-	-	30°35' 367"/ 035°45' 987"	1,256	Rectangular structures, Cist tombs	150 x 50	R/B	R/B sherds	-
0002	Bir Abu Danneh	-	-	30°16' 119"/ 035°33' 443"	1,456	K-line, Rectangular structures	250 x 50	EPI, CH-EB, R/B	microliths, EB and R/B sherds	Fujii 2002b
2001-2002 WINTER SEASON SURVEY										
0101	NW hills	-	-	30°40' 021"/ 035°51' 513"	1,008	Lithic production, cairns	550 x 450	MP, CH-EB	LV, TS/JB	Fujii 2002b
0102	NW hills	-	-	30°39' 264"/ 035°51' 110"	1,021	Lithic production, cairns	150 x 100	MP, EPI, CH-EB	LV, microliths, TS/JB	-
0103	NW hills	-	-	30°36' 824"/ 035°52' 168"	1,074	Lithic production, cairn line	150 x 20	MP, EPI, CH-EB	LV, microliths, TS/JB	-
0104	**Wadi Ruweishid as-Sharqi**	-	-	30°32' 332"/ 035°54' 558"	1,036	Barrage, Flint scatte	40 x 30	PPNB, CH-EB	LV, bifacial knife	Fujii 2002b
0105	NW hills	-	-	30°32' 418"/ 035°55' 477"	1,052	Lithic production	250 x 100	MP, EPI, CH-EB	LV, microliths, TS/JB	-
0106	**Tal'at Abu Tulayha**	-	-	30°32' 500"/ 035°55' 746"	1,063	Lithic production, cairns	150 x 50	PPNB-LN, CH-EB	NV, TS/JB	-
0107	NW hills	-	-	30°32' 299"/ 035°55' 608"	1,055	Lithic production	80 x 80	CH-EB	TS/JB	-
0108	Wadi Abu Tulayha	-	-	30°31' 232"/ 036°02' 426"	1,000	Cairn circle	50 x50	-	none	Fujii 2002b
0109	**Wadi Abu Tulayha East**	-	-	30°31' 035"/ 036°02' 379"	1,001	Cairns, Flint scatter	250 x 200	PPNB, CH-EB	TS/JB	-
0110	Gurta Siyata	-	-	30°32' 000"/ 036°05' 708"	1,039	Lithic production	300 x 300	CH-EB	TS/JB	-
0111	Tell Burma	-	-	30°37' 433"/ 035°50' 419"	1,085	Flint scatter	150 x 20	EPI, CH-EB	microliths, TS	-
0112	Tell Burma	-	-	30°38' 385"/ 035°50' 445"	1,019	Cairn field, flint scatter	400 x 350	MP, EPI, CH-EB	LV, microliths	-
0113	Harra al-Burma	-	-	30°37' 759"/ 035°50' 397"	1,037	Cairn line, flint scatter	130 x 10	MP, EPI, CH-EB	LV, microliths, NV, TS/JB	-
0114	Jabal Juhayra	-	-	30°38' 596"/ 035°47' 572"	1,114	Cairns	15 x 15	R/B	R/B sherds	-
0115	Jabal Juhayra	-	-	30°38' 655"/ 035°46' 836"	1,156	Cairns	5 x 5	EPI, R/B	Microliths, R/B sherds	-
0116	**Jabal Juhayra**	JJ-OT	-	30°39' 029"/ 035°45' 683"	1,218	Small settlement	150 x 50	PPNB	NV	Fujii 2002b
0117	Harra al-Burma K-lines 2	HB-KL2	2003	30°37' 879"/ 035°49' 961"	1,046	K-line	400	CH-EB	none	Fujii 2004a
0118	Harra al-Burma K-lines 1	HB-KL1	2003	30°37' 149"/ 035°50' 176"	1,064	K-line	750	CH-EB	rare	Fujii 2002b, 2004a
0119	Jabal 'Oneize	-	-	30°29' 547"/ 035°46' 925"	1,163	Stone-built structures	200 x 100	R/B?	R/B pottery sherds	-
0120	Jabal 'Oneize	-	-	30°29' 785"/ 035°46' 820"	1,129	Cairn line	120 x 15	-	none	-
0121	Khirbet al-Qanas	-	-	30°31' 458"/ 035°40' 235"	1,208	Small Settlement	120 x 55	R/B (Nabatean)	R/B (Nabatean) sherds	-
0122	Harrat al-Sayiyeh	-	-	30°34' 276"/ 035°42' 758"	1,235	Watching tower, Cairns	120 x 20	R/B?	rare	-
0123	Harra al-Sayiyeh K-line	HS-KL	2003	30°31' 854"/ 035°41' 441"	1,194	K-line	5 km	CH-EB?	TS/JB	Fujii 2004b
0124	Wadi Dursi	-	-	30°24' 785"/ 035°54' 504"	975	Lithic production, cairns	100 x 20	CH-EB	TS/JB	-
0125	Tell Abura'	-	-	30°18' 586"/ 035°35' 295"	1,367	K-line	3 km	CH-EB?	rare	Fujii 2002b
0126	Bayir	-	-	30°46' 192"/ 036°40' 846"	906	Lithic production	200 x 50	CH-EB	TS/JB	Fujii 2002b
0151	NW hills	-	-	30°39' 573"/ 035°51' 469"	1,012	Lithic production	100 x 100	LP, CH-EB	Handaxe, TS/JB	-
0152	Wadi Abu Tulayha	-	-	30°31' 825"/ 035°57' 911"	1,026	Lithic production	100 x 80	CH-EB	TS/JB	-
0153	Wadi Abu Tulayha	-	-	30°32' 039"/ 035°58' 971"	1,055	Lithic production, cairns	300 x 200	CH-EB	TS/JB, Thamudic inscriptions	-
0154	NW hammada	-	-	30°32' 129"/ 035°50' 029"	1,079	Cairns	130 x 100	-	none	-
0155	**Wadi Abu Tulayha**	WAT	2005-	30°30' 540"/ 035°58' 269"	1,011	Cairns, Lithic production	250 x 250	PPNB-LN, CH-EB	NV, TS	-
0156	NW hammada	-	-	30°32' 710"/ 035°50' 261"	1,071	Cairn	10 x 10	-	none	-
2002 SUMMER SEASON SURVEY										
0201	Harrat al-Juhayra	-	-	30°38' 819"/ 035°49' 352"	1,026	Cairn field	1km x 1km	CH-EB?	microliths,	-
0202	Harrat al-Juhayra Pseudo-S.	HJ-PS	2004	30°38' 959"/ 035°48' 070"	1,073	QATW L. 4 type pseudo-settlement	300 x 50	LN?	none	Fujii 2005a
0203	Harrat al-Burma	-	2003	30°37' 444"/ 035°49' 486"	1,046	Cairn	50 x 30	CH-EB?	microliths	-
0204	Wadi Burma South Cairn Field	WBs-CF	2003	30°38' 481"/ 035°49' 787"	1,017	Cairn field	ca. 100 ha	CH-EB	rare	Fujii 2004b
0205	Wadi Burma Kite-site 1	WB-KS1	2003	30°39' 026"/ 035°50' 240"	1,008	Kite site	400 x 400	Umayyad?	red-painted pottery sherds etc.	Fujii 2004b
0206	**Wadi Burma North**	WBn-CF	2004	30°39' 561"/ 035°50' 684"	1,000	Cairn field, Upright slab wall structure	ca. 200 ha	PPNB, CH-EB	rare	Fujii 2005a
0207	Tal'at Abydah	-	-	30°40' 959"/ 035°52' 182"	1,057	Watcfhing tower	30 x 25	Roman	Roman sherds	-
0208	Tal'at Abydah Cairn Field 1	TA-CF1	2004	30°39' 944"/ 035°53' 085"	1,070	Cairn field	ca. 50 ha	CH-EB	LV, NV, TS,	Fujii 2005a
0209	Tal'at Abydah	-	-	30°40' 273"/ 035°53' 142"	1,022	Lithic production	300 x 500	CH-EB	TS/JB	-
0210	Tal'at Abydah	-	-	30°38' 967"/ 035°51' 626"	1,094	Cairn line, Ltihic production	750 x 20	CH-EB	TS	-
0211	Tal'at Abydah Flint Mine 1	TA-FM1	-	30°39' 168"/ 035°52' 541"	1,097	Lithic production (Flint mines)	600 x 20	CH-EB	TS	-
0212	Tal'at Abydah Flint Mine 2	TA-FM2	-	30°39' 161"/ 035°52' 203"	1,083	Lithic production (Flint mines)	30 x 750	CH-EB	TS	-
0213	Tal'at Abydah	-	-	30°38' 203"/ 035°52' 207"	1,091	Lithic production, Carin field	400 x 30	CH-EB	TS/JB	-
0214	Tal'at Abydah	-	-	30°38' 835"/ 035°53' 796"	1,055	Lithic production	500 x 150	CH-EB	TS, JB	-
0215	Tal'at Abydah Flint Mine 3	TA-FM3	-	30°37' 549"/ 035°55' 960"	1,078	Lithic production (Flint mines)	200 x 20	CH-EB	TS	-
0216	Tal'at Abydah Flint Mine 4	TA-FM4	-	30°37' 470"/ 035°55' 611"	1,078	Lithic production (Flint mines)	100 x 15	CH-EB	TS	-
0217	Tal'at Abydah Flint Mine 5	TA-FM5	-	30°36' 499"/ 035°55' 674"	1,077	Lithic production (Flint mines)	200 x 170	CH-EB	TS	-
0218	Jabal Juhayra (JJ-KL)	-	-	-	-	K-line	-	CH-EB	-	-
2003 SPRING SEASON SURVEY										
0301	Tell ar-Radiha	-	-	-		Lithic production, cairns	300 x 100	CH-EB	TS, JB	-
0306	Harrat al-Burma Cairn Line	HB-CL	2003	30°37' 695"/ 035°49.872	1,017	Cainr Line	800x100	CH-EB?	rare	Fujii 2004b
2003/2004 WINTER SEASON SURVEY										
0310	Harrat al-Juhayra	-	-	30°39' 173"/ 035°48' 004"	1,083	Enclosure field	450 x 200	CH-EB?	-	-
0311	Harrat al-Juhayra	-	-	30°39' 062"/ 035°47' 700"	1,069	Enclosure field	70 x x50	CH-EB?	none	-
0312	Jabal Juhayra	-	-	30°38' 926"/ 035°45' 295"	1,335	Watching Tower	8 x 10	Roman	Roman sherds	-
0313	Wadi Qusayir	WQ	2004	30°38' 522"/ 035°48' 566"	1,047	Composite site	150 x 450	EP-ISL		Fujii 2005a
0314	Tal'at Abyda Cairn Field 2	TA-CF2	-	30°41' 231"/ 035°53' 153"	1,031	Cairn field	150 x 400	CH-EB	TS, JB	-
2005 SPRING SEASON SURVEY										
0501	**Wadi Abyda**	-	-	-	-	Flint scatter, Enclosures	-	PPNB, CH-EB	NV, TS, JB	-

* The length of the N-S, NE-SW, or NW-SE axis is described first.

* MP: Middle Palaeolithic; EPI: Epipalaeolithic; PPNB: Pre-Pottery Neolithic B; LN: Late Neolithic; CH: Chalcolithic; EB: Early Bronze Age; IA: Iron Age; R/B: Roman/Byzantine

** LV: Levallois components; NV: Naviform components; TS/JB: Tabular scraper and Jafr blade components

NOTES D'ARCHÉOLOGIE LEVANTINE: IX. TRAVAUX ARCHÉOLOGIQUES À TELL GHAMQA AU SUD DE TARTOUS[1]

Michel AL-MAQDISSI*

Résumé
Nous présentons ici les premières données livrées par les travaux archéologiques réalisés à Tell Ghamqa en 2005 par une équipe de la Direction Générale des Antiquités et des Musées. L'auteur discute la séquence stratigraphique obtenue et présente les principales phases d'occupation.

Mots clefs : Ghamqa-Enhydra, Amrit-Marathos, Arwad-Arados, Tartous-Antárados, Romain tardif, Phénicien tardif, Bronze ancien IV, Monnaie, Céramique.

I. INTRODUCTION

Le site de Tell Ghamqa est situé à la limite sud de la ville de Tartous, sur la côte méditerranéenne, au sud de la rivière Ghamqa[2] (fig. 1).

Le site fut visité par Ernest RENAN lors de sa mission en Phénicie en 1860 et en 1861, durant laquelle il a insisté sur l'importance de l'occupation phénicienne et classique[3] et a identifié le tell avec l'ancienne Enhydra[4].

Nous signalons la présence d'une inscription phénicienne funéraire du IIIème siècle av. J.-C., trouvée par René DUSSAUD en 1896[5] et publiée dans le *Répertoire d'Épigraphie Sémitique* paru à Paris en 1905[6]. L'importance du site réside dans sa proximité avec la ville d'Amrit (Marathos)[7]. L'ensemble de cette partie de la côte syrienne, pendant la période phénicienne tardive, était lié directement au royaume d'Arados.

En effet, cette région a joué un rôle primordial durant la deuxième moitié du Ier millénaire et la période classique (hellénistique, romaine et byzantine)[8]. Nous ignorons le nom antique de ce site mais Jean-Paul REY-COQUAIS confirme la proposition d'Ernest RENAN et identifie le tell avec la ville d'Enhydra[9], citée par STRABON[10], et située en face d'Arados entre les deux villes de Carné[11] et Marathos[12].

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1 Mes remerciements les plus sincères vont à Wurud IBRAHIM, Roxane KASOUHA, Chadi CHABO, Fayez AYYACHE et Rana SABAGHE.

2 Pour une introduction générale sur le site, cf. GUBEL et LIPINSKI 1992 : pp. 187–188, SAPIN 1996 et GUBEL 2002.

3 Cf. à ce propos RENAN 1864 : pp. 19–20, 46.

4 *Ibid.* : p. 19.

5 DUSSAUD 1897 : pp. 322–336.

6 *RÉS* : 58 (= CLERMONT-GANNEAU et CHABOT 1900–1905) et CLERMONT-GANNEAU 1901 : pp. 196–198. Pour les études récentes sur cette inscription, cf. TEIXIDOR 1979, BORDREUIL 2002.

7 Le tell est pratiquement implanté entre Tartous (Antárados) au nord et Amrit (Marathos) au sud.

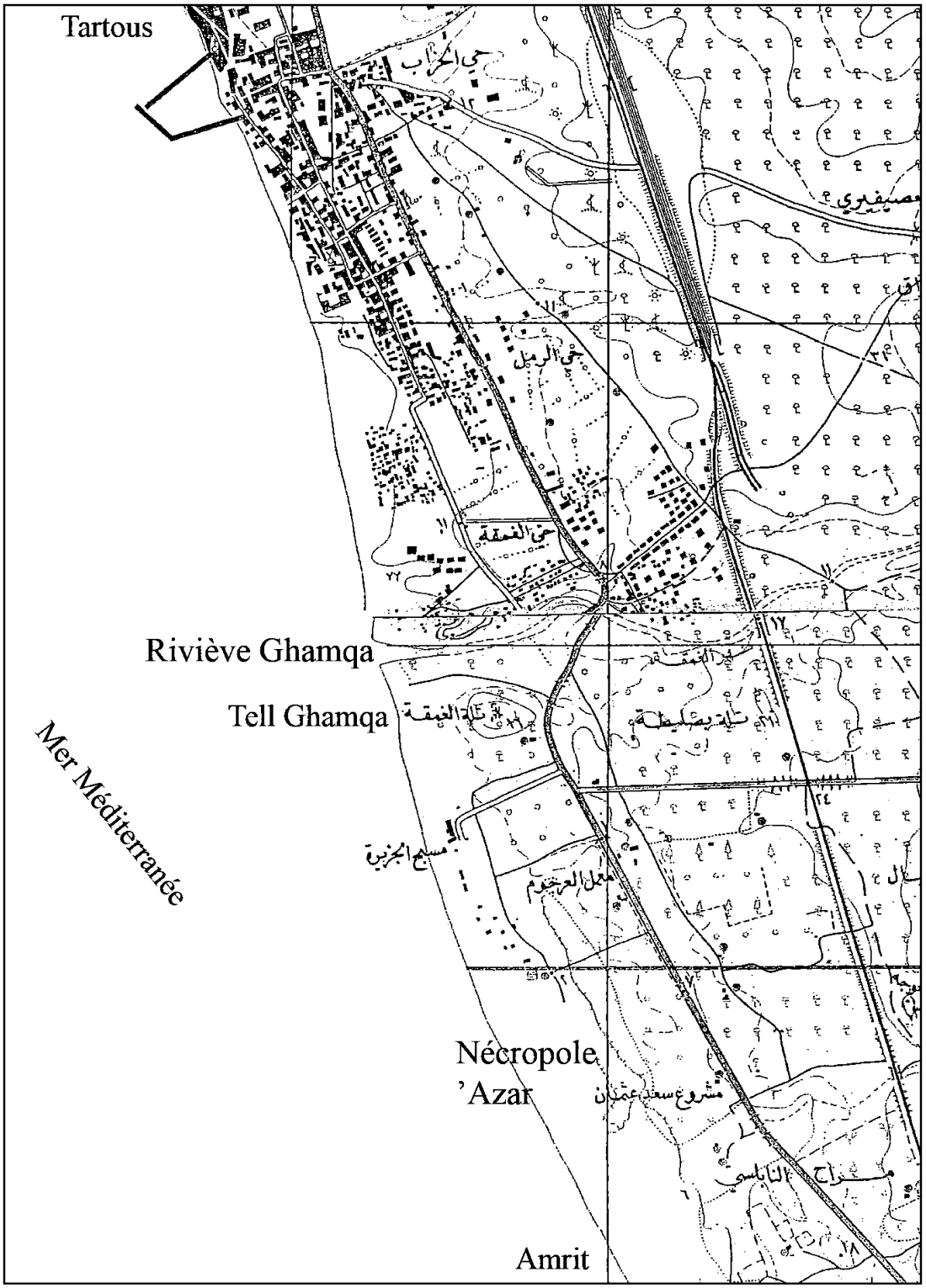
8 Cf. à ce propos REY-COQUAIS 1974.

9 REY-COQUAIS 1970 : p. 17 et 1974 : p. 65.

10 STRABON T 15 et ROUGE 1966 pp. 106–107.

11 C'est pratiquement Tell Qarnoune (تل فرنون) situé au nord de Tartous.

12 Pour Amrit, cf. principalement DUNAND et SALIBY 1985, SALIBY 1989, LERICHE et LIPINSKI 1992, YON et CAUBET 1993, AL-MAQDISSI 1993, 2007 a-b.



- Tartous et Tell Ghamqa .

Fig. 1, Tell Ghamqa : Situation de Tell Ghamqa par rapport à Tartous et Amrit - nécropole de 'Azar (Archives de la DGAM).

II. Les Travaux de terrain :

En 2005, une équipe de la Direction Générale des Antiquités et des Musées a réalisé une campagne de prospection suivie d'une campagne de sondages préventifs dans la partie basse du site afin de dresser la séquence des phases successives d'occupation et d'étudier la céramique ramassée en surface. Les activités ont principalement été exécutées dans la partie basse, ouest et nord du site. Les travaux de terrain ont confirmé les limites du site qui dessinent une forme triangulaire de 200 mètres dans l'axe est-ouest et de 140 mètres dans l'axe nord-sud (fig. 2-3) ; le point le plus haut s'élevant à 16 mètres par rapport au rivage. La partie haute domine pratiquement toute la région et nous pouvons remarquer une forte élévation des côtés est et nord alors que l'ensemble du site fut terrassé pour la réalisation d'aménagements agricoles. Le versant ouest, orienté vers la mer, est coupé par une corniche récemment construite par la municipalité de la ville de Tartous.

Ces ramassages de matériel archéologique de surface témoignent d'une occupation aux époques suivantes :

- **Le versant oriental** : Hellénistique, Fer III, Bronze Moyen et Ancien.
- **Le sommet de la partie centrale** : Hellénistique, Fer III, Bronze Ancien III-IV.
- **Le versant occidental** : Romaine Tardive, Hellénistique, Fer II, Bronze Ancien.

Nous présentons dans le tableau ci-dessous les grandes phases d'occupation du site.

Ghamqa 0	Surface récente
Ghamqa I	Ottomane
Ghamqa II	Romaine Tardive (Byzantine)
Ghamqa III	Romaine
Ghamqa IV	Hellénistique
Ghamqa V	Fer III (Phénicienne tardive)
Ghamqa VI	Fer II
Ghamqa VII	Bronze moyen II
Ghamqa VIII	Bronze ancien IV
Ghamqa IX (?)	Bronze ancien III

Fig. 2, Tell Ghamqa 2005 : Vue générale du nord-ouest vers le sud-est (Michel Al-Maqdissi).

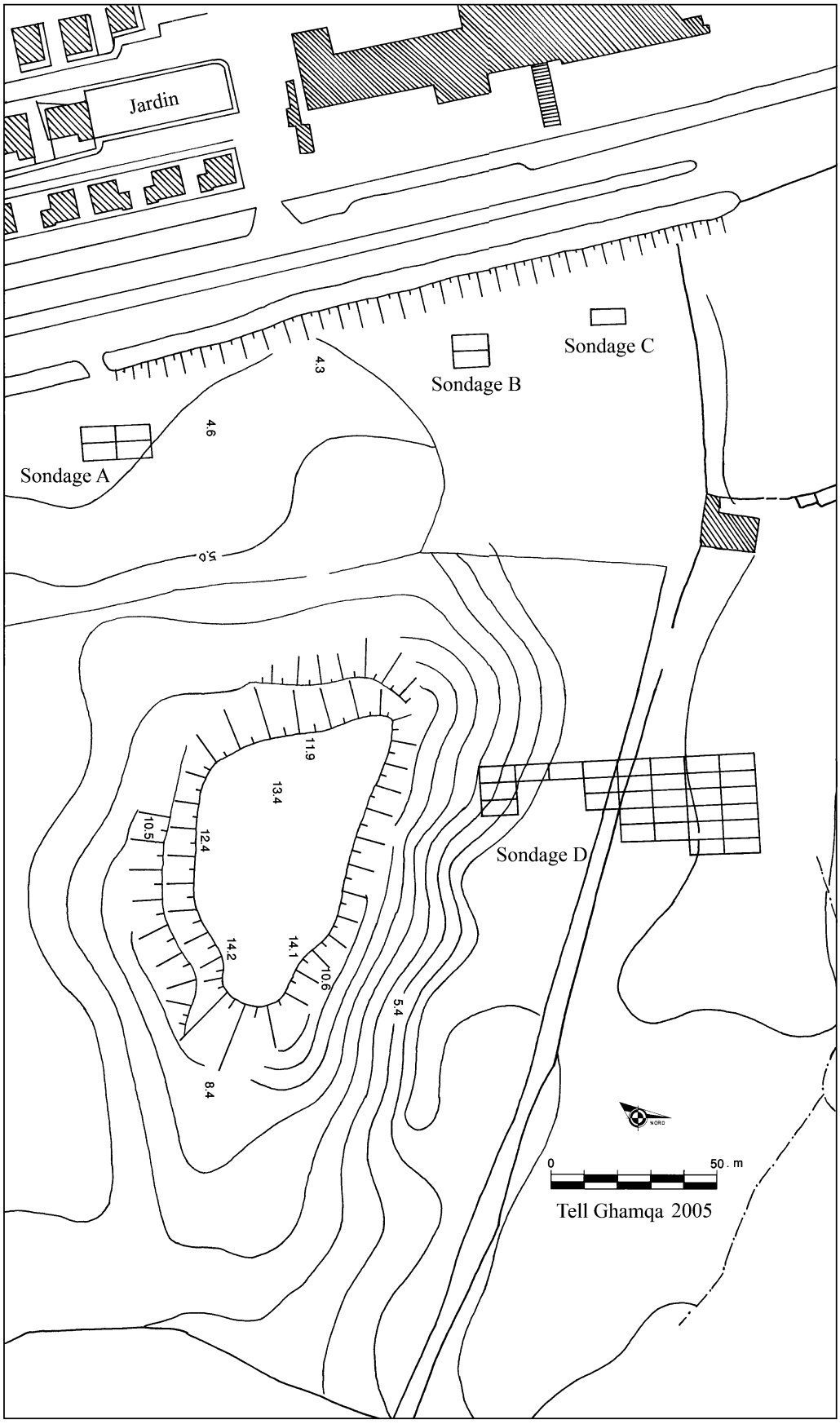


Fig. 3, Tell Ghamqa 2005 : Plan topographique avec la localisation des sondages (Chadi CHABO).

III. Les sondages au pied du versant occidental

Ce sondage est situé en bordure de la corniche dans un terrain pratiquement plat. Le travail à consisté en deux types d'actions sur le terrain : trois sondages limités (A-C) afin de comprendre la nature d'occupation des premières phases d'occupation et un nettoyage d'une coupe résultant des aménagements agricoles des années 70.

Le sondage A :

Après le dégagement d'un demi mètre de la surface, qui comporte du sable mélangé a des déchets modernes probablement venus de la mer, la fouille a révélé une série de structures très mal conservées constituées des éléments suivants (fig. 4) :

- Des alignements de fondations en pierre de dimension moyenne associées à des sols de terre battue (fig. 5).
- Une série de quatre *tannours* très mal conservés.
- Des fosses aménagées dans les structures datant probablement d'une période récente.

Le matériel issu de ce dégagement récolté sur les sols et dans des positions stratigraphiques fiables se caractérise par des tessons en pâte locale et des pièces de monnaie en bronze[13] de **Constantin Ier le Grand** et **Constant Ier** (fig. 6) indiquant une datation dans la période romaine tardive (Ghamqa II).

Nous pensons qu'il s'agit de structures d'habitation simple liées à une activité domestique au pied du site et que l'occupation majeure se trouvait au sommet du tell.

Fig. 4, Tell Ghamqa 2005 : Sondage A, éléments du niveau Ghamqa II (Michel Al-Maqdissi).

Fig. 5, Tell Ghamqa 2005 : Sondage A, sol, *tannour* et fondation d'un mur du niveau Ghamqa II (Michel Al-Maqdissi).

13 Il s'agit d'un lot de monnaies étudié par Khaled KIWAN du Musée National de Damas.

Fig. 6, Tell Ghamqa 2005 : Sondage A, pièce de monnaie en bronze de Constantin 1er le Grand (Khaled KIWAN).

Nettoyage de la coupe stratigraphique :

Ce nettoyage révèle des informations très importantes. Nous pouvons restituer les éléments stratigraphiques, à partir de la coupe, étudiée sur trois mètres de profondeur, en trois niveaux (fig. 7) :

- Le niveau le plus récent date de l'époque arabo-islamique et contient peu de matériel. Les quelques tessons ramassés sur le sol en terre battue confirment une occupation du site à la fin de la période mamelouke ou au début de la période ottomane.
- Le deuxième niveau, conservé sur 0,75 m d'épaisseur, comporte la première assise en pierre d'un petit mur en relation avec un sol en terre battue, une jarre de stockage et un *tannour* de même nature que ceux trouvés sur les sols du sondage A (Ghamqa II).
- Un niveau d'abandon de terre sableuse de 0,35 m d'épaisseur.
- Le troisième niveau (fig. 8), directement placé sur le sol vierge, comporte sur 1,15 m d'épaisseur, une surface terrassée de cailloux, de sable et de terre. Sur cette dernière repose une petite couche d'argile noirâtre sur laquelle nous enregistrons un sol de terre battue. Sur ce sol, la présence d'éléments de chaux écroulés peut provenir, à l'origine, d'un aménagement particulier de certains murs mais nous n'avons repéré aucune trace de mur. Les quelques tessons retrouvés présentent un type caractéristique de la deuxième moitié du IIIe millénaire (Ghamqa VIII = Bronze Ancien IV).

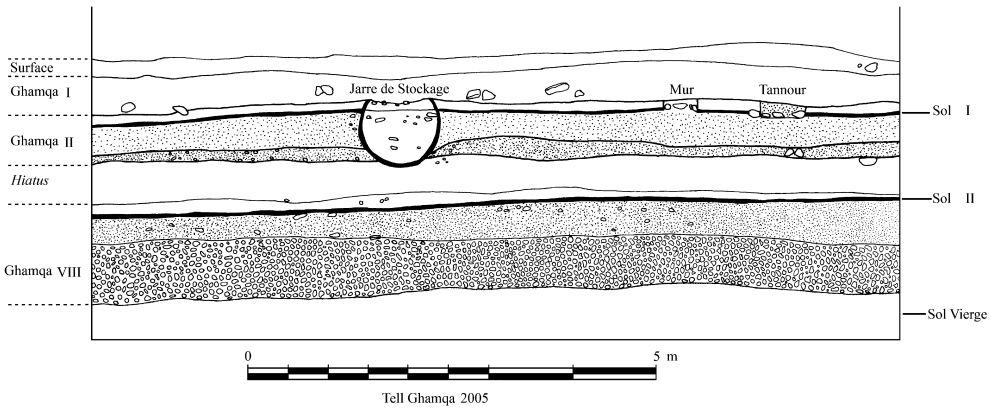


Fig. 7, Tell Ghamqa 2005 : Coupe stratigraphique (Michel AL-MAQDISSI).

Fig. 8, Tell Ghamqa 2005 : Vue partielle de la coupe stratigraphique avec les deux niveaux Ghamqa II et Ghamqa VIII (Michel AL-MAQDISSI).

IV. LE SONDAGE D AU PIED NORD DU SITE :

Réalisé à la surface d'un terrain plus ou moins plat (fig. 9), il a livré un mur conservé sur 25 m de longueur au niveau de la première assise de fondation (fig. 10). Il s'agit d'une structure d'un bâtiment important dont la largeur des fondations atteint 1,30 m. Malheureusement, nous n'avons que peu d'éléments permettant de dater cette structure. D'après les quelques tessons récoltés à la surface de ce chantier, il s'agirait de la période romaine tardive (Ghamqa II).

V. CONCLUSION :

Les travaux de sauvetage réalisés par la Direction Générale des Antiquités et des Musées au pied de Tell Ghamqa et l'étude de la céramique de surface ont apporté des informations sur la nature de l'occupation du site aux époques anciennes.

Effectivement, le nettoyage de la coupe a confirmé que la plus ancienne occupation date du milieu du IIIe millénaire (Ghamqa VIII) ce qui témoigne de l'intégration du site dans l'ensemble

Fig. 9, Tell Ghamqa 2005 : Vue générale du Sondage D, au fond la ville de Tartous et la rivière Ghamqa (Michel AL-MAQDISSI).

Fig. 10, Tell Ghamqa 2005 : La fondation en pierre du Sondage D, vue du nord vers le sud (Michel AL-MAQDISSI).

des nouvelles fondations de cette époque. Celles-ci ont marqué, pour la Syrie côtière et intérieure, une phase importante liée à la deuxième révolution urbaine. Nous pouvons attester des phénomènes comparables dans la plaine de Jablé au nord (Tell Sianu[14] et Tell Toueini[15]), dans la plaine de 'Akkar (Tell Arqa[16]), dans la région de Mishirfé/Qatna[17] et dans la vallée de l'Oronte[18].

La deuxième phase du IIe millénaire est uniquement caractérisée par quelques tessons ramassés à la surface (Ghamqa VII). Elle prouve incontestablement l'occupation au Bronze Moyen mais nous manquons d'informations concernant le Bronze Récent.

En revanche, la période phénicienne tardive est bien attestée par plusieurs types de tessons (*Red slip*, céramique peinte, importation chypriote et production locale) confirmant la présence d'une période importante au sommet et dans la partie centrale du site (Ghamqa V et Ghamqa VI)[19].

Enfin, la dernière phase d'occupation devrait dater de la période romaine tardive (Ghamqa II). Elle est présente dans l'ensemble du site. Les deux sondages réalisés offrent une idée claire d'une architecture domestique simple au pied du versant occidental et des fondations d'un monument important au pied du versant nord.

Pour conclure ce travail limité, nous pouvons affirmer que l'ensemble de la documentation disponible sur ce site de la côte méditerranéenne, depuis Ernest RENAN jusqu'à l'étude de Jean-Paul REY-COQUAIS, donne une vision claire des deux grandes phases d'occupation datées de la période phénicienne tardive (Ghamqa V) et hellénistique (Ghamqa IV) liées pratiquement à celles d'Amrit[20]. Par ailleurs, les missions de 2005 et les sondages préventifs ont apporté de nouvelles données sur l'origine du site au IIIe millénaire (Ghamqa VIII). Cela a contribué à compléter nos connaissances sur la nature de l'occupation lors de la deuxième révolution urbaine le long de la côte syrienne.

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14 Pour Tell Sianu, cf. AL-MAQDISSI 2006.
15 Pour Tell Toueini, cf. AL-MAQDISSI, VAN LERBERGHE, BRETSCHNEIDER et BADAWI 2007.
16 Pour Tell Arqa, cf. THALMANN 2006.
17 Sondage de la Cour du Trône du palais royal réalisé par la mission syrienne.
18 Documentation inédite de la mission syrienne.
19 Cf. YON et CAUBET 1993.
20 Pour une présentation de l'ensemble des données disponibles pour cette partie de côte phénicienne et l'histoire des recherches archéologiques, cf. YON 1995, pp. 96–98.

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VII. Abreviations

BAH = Bibliothèque Archéologique et Historique.
CAAS = Chroniques des Activités Archéologiques en Syrie.
DAS = Documents d'Archéologie Syrienne.
IGLS = Inscriptions Grecques et Latines de la Syrie.
RA = Revue Archéologique.
RÉS = Répertoire d'Épigraphie Sémitique.
Trans. = Transeuphratène.

THE CORINTHIAN CAPITAL OF THE STOAS OF THE ASKLEPIEION IN ANCIENT MESSENE

Ryuichi YOSHITAKE*

Summary: Ancient Messene is one of the most important Hellenistic sites in southern Greece. The author had the opportunity to make an architectural survey of the stoas of the Asklepieion of Messene from 2001 to 2005. According to our investigation, the stoas of the Asklepieion have two colonnades, which are crowned by two different types of Corinthian capitals: the outer colonnades have small Corinthian capitals, and the inner colonnades have big Corinthian capitals. These capitals have figural decorations in their central facade. In this paper, the author has focused on these Messenian Corinthian capitals and their architectural characters, in the light of a comparative analysis.

1. Introduction

The ancient city of Messene, one of the most important classical sites in Greece, is located around 17 km north of Kalamata, Peloponnese. According to the *Description of Greece* by the Roman traveler and geographer Pausanias, Epaminondas from Thebes founded Messene in 369 B. C. after he had beaten the Spartans near Leuktra[1]. In the 19th century, the French archaeologist and geographer travelled in the south Peloponnesus, and made some sketches of the city wall and of the Arcadian gate of Messene[2]. It was in the 1950s that the Greek archaeologist Prof. A. Orlandos began to excavate the site in a scientific way, and shed light on most of the building complex of the Asklepieion (the Sanctuary of Asklepios). However, the final report of this excavation was not published because of his death[3]. In 1987, the Society of Messenian Archaeological Studies directed by Dr. P. Themelis of the University of Crete, started to reinvestigate the Asklepieion and performing some new excavations extensively at the site of the Theater, Stadium, housing quarter, etc. in the city area[4]. The author, as a member of the Architectural Mission of Kumamoto University to Ancient Messene (leader: J. Ito), joined this archaeological campaign and collaborated with them. The authors surveyed the surrounding stoas of the Asklepieion for one or two months in each season from 2001 until 2006[5]. From the architectural research on the site, plans, elevations, and sections of the stoas were made, and some important blocks were also drawn.

After our architectural survey, it is clear that the stoas of the Asklepieion have a Corinthian order[6]. The choice of the Corinthian order for the peristyle court is the earliest example through the history of Greek architecture. During the Hellenistic period, the Corinthian order has grown up as the Hellenistic king's favorite order[7]. It is commonly known that the Corinthian order has grown up during the Hellenistic period, and might have been formed in the Roman architecture[8], but its details are not very clear. This paper aims to analyze the Hellenistic Corinthian capital and to describe their architectural character during the Hellenistic period. In this study, the author has focused on the Corinthian capitals in Messene, and on the description of its architectural characters through a comparative analysis.

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2. The Asklepieion and the Stoas (Figures 1 & 2)

The Asklepieion is situated in the south of the agora in the center of Messene, abutting on the streets on its north and east sides. It was naturally the main religious center of the town, but at the same time, it also had a role as political center with its annexed Ekklesiasterion (the assembly hall) and Bouleuterion (the council hall). The Gymnasium complex was ca. 250 m to the south of the Asklepieion and the Theater ca. 200 m toward the northwest. In the middle of the sanctuary, the Temple of Asklepios was built in Doric order with the altar in front of it. Many bases for statues and five semicircular exedrae were also placed along the colonnades of the temple and the surrounding stoas. All of these were enclosed by Corinthian stoas on their four sides, which formed a square court. Behind the east stoa, there are the best-preserved buildings of the site: the Ekklesiasterion, the East Propylon, and the Bouleuterion. The west stoa has eight smaller rooms, the northern most of which was the cult room for Artemis. Behind the north stoa was the Sevasteion with the axial North Propylon, which opened onto the street in the north. There was a Hellenistic bath building

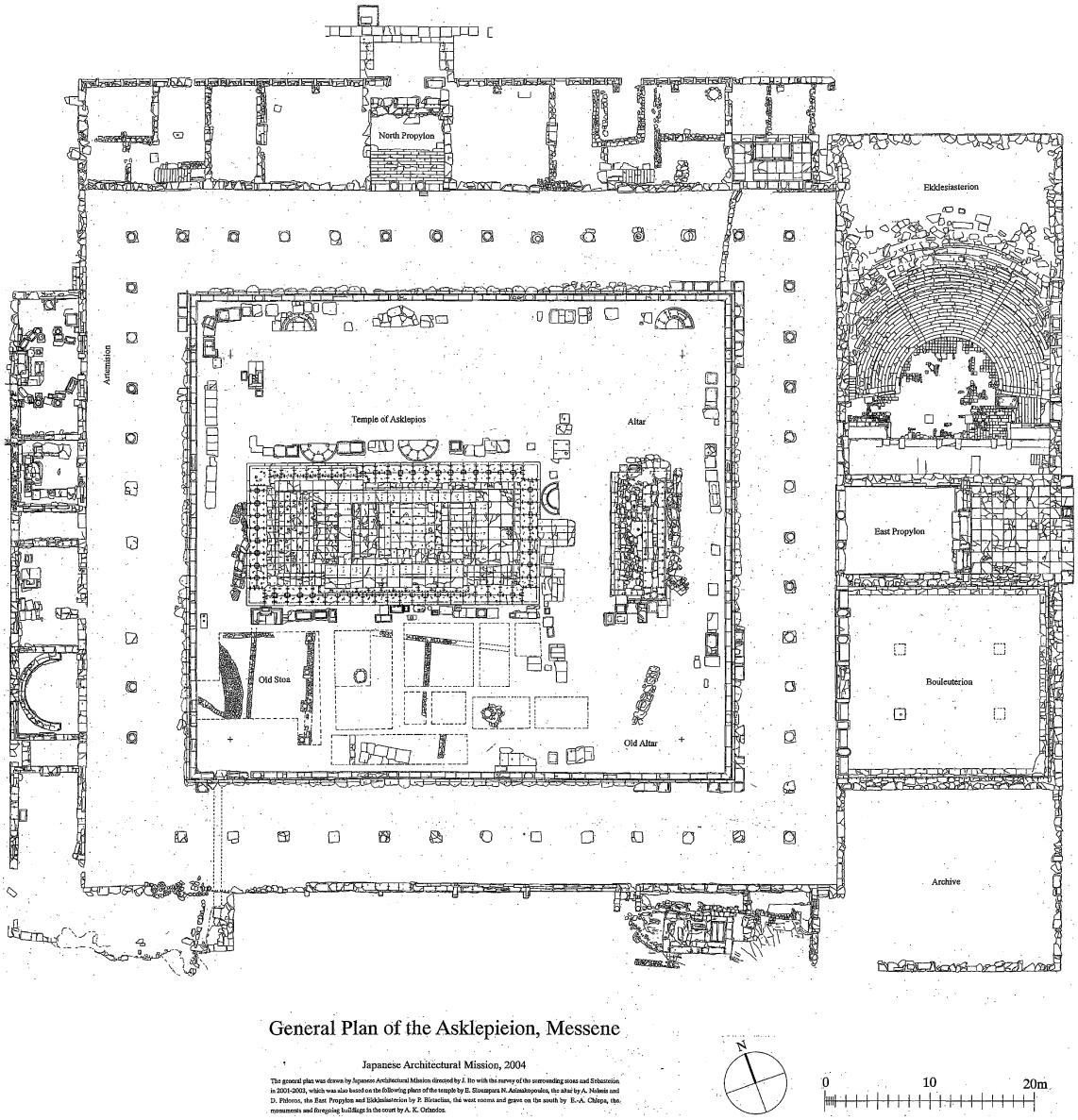

Figure 1: General plan of the Asklepieion (drawn by the Japanese Architectural Mission, 2004)

behind the south stoa, separated from the complex building of the Asklepieion. The site of the Asklepieion slopes southward gently. The floor of the Sevasteion is higher than that of the stoas. The east stoa was constructed on a bed of rock directly; on the other hand, the west part of the south stoa was constructed on a terrace supported by deep foundations. The whole sanctuary is oriented 20 degrees clockwise from the east-west geographical line, following the direction which is based on the gridiron or Hippodamian system[9]. The four stoas have double colonnades. The outer colonnades of the north and south stoas are 52 m long, and have the east and west stoas 47 m long. The four colonnades make precise right angles[10]. All the crepis blocks are *in situ*. The stylobate blocks remain only near the corners, and the plinths only in the northeast architrave and frieze blocks are of poros, and those of the euthynteria, stylobate, toichobate. According to Dr. Themelis, the excavator, the whole building of the Asklepieion dates from the last quarter of the 2nd century B. C.[11].

More than two hundred architectural blocks of the stoas remain in and around the Asklepieion. Almost all the blocks are poros, and plinth blocks and sima blocks are of limestone. The blocks were deteriorated or weathered to some extent, due to the softness of the poros. The measured dimensions inevitably include some errors caused by this deterioration and weathering. It is noteworthy that some parts of the entablature of the east and west stoas were found as fallen down, probably due to an earthquake. They were left as they were found, and it is expected that the original surfaces of the entablature will be exposed intact in the near future. Its details will be described later. The column drums indicate that the columns had only 20 flutes. This number of flutes is unique, because usual Corinthian columns had 24 flutes[12]. The columns were not only fluted but also reeded on the lower part[13].

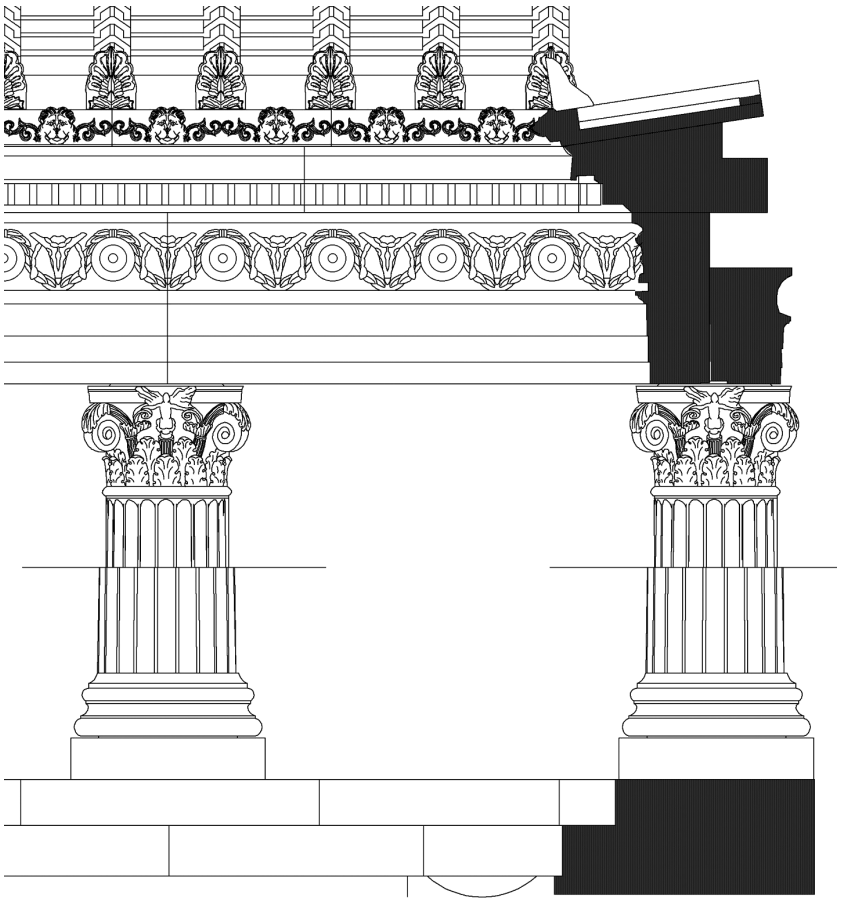

Figure 2: The Corinthian order of the outer colonnade of the Stoa (reconstructed)

3. The Corinthian Capital

The first excavator A. Orlandos recognized the capitals which were found in the Asklepieion as the capitals of the stoas of the Asklepieion[14]. The general design of the capital can be summarized as follows. The Messenia capital has a bell-shaped body, the kalathos (= κάλαθος) with two ties of acanthus leave and outer volutes, and a caulis between the acanthus leaves of the second tie. A two-leaf calyx emerges on each caulis. Inner and outer helices are set on calyx, and they support an inner tendril and an outer volute in each. An axial acanthus leaf also lies on the center façade of the capital, and supports a human and vegetable (or semi-human and semi-vegetable) sculpture. The abacus is crowned on the capital top. The necking has some molding without any decoration, and it continues into a column (Fig. 3: Terminology of the Corinthian capital).

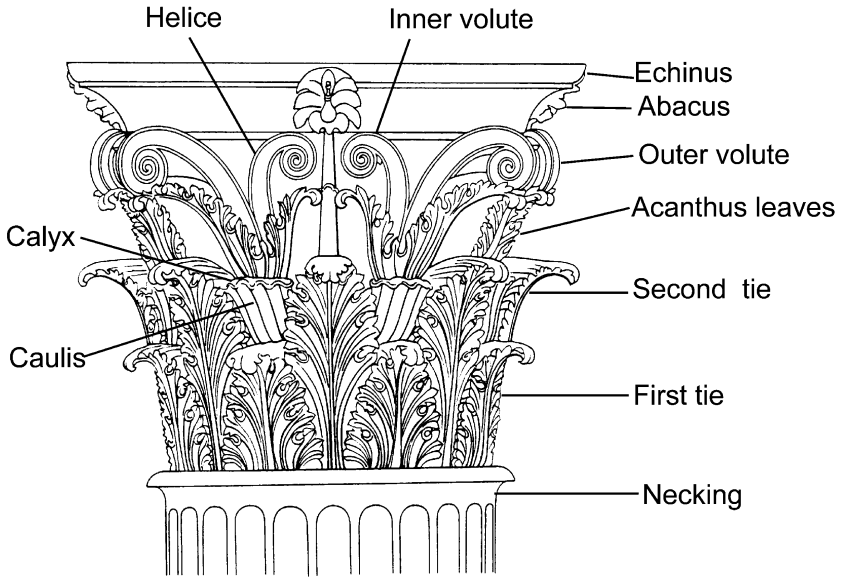

Figure 3: Terminology of the Corinthian capital

Thirty-seven capitals have been found in our reinvestigation. There are two types of normal Corinthian capitals; big and small ones[15]. Belonging to the normal capital group, there are eleven big capitals and eighteen small capitals. The two types of normal Corinthian capitals are categorized following these points:

1) the amount of the acanthus leaves in each tie,
2) the size of the acanthus leaves and of the outer volute,
3) the position of the acanthus leaves under the outer volute.

The first type (small capital) has a small volute and eight acanthus leaves in each tie (Figs. 4, 5). The second type (big capital) has a big volute and twelve acanthus leaves in each tie (Figs. 6, 7). The small capital height is av. 0.533 m (in two blocks), the diameter of the necking is av. 0.455 m (in five blocks). The big capital height is av. 0.593 m (in four blocks), the diameter of the necking is av. 0.552 m (in four blocks)[16]. From these facts, the big capital must belong to the inner column, which has a bigger diameter in its lower part, and the small capital must belong to the outer column, which has a smaller diameter in its lower part[17]. The acanthus leaf of the big type is av. 20 cm height at the first tie, and the one of the small type is av. 15 cm height. (Table 1)

Figure 4: Small type capital (C25), reconstructed

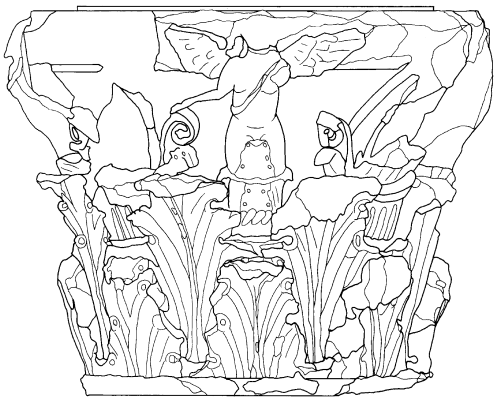

Figure 6: Big type capital (C24)

Figure 5: Small type capital (C25)

Figure 7: Big type capital (C24)

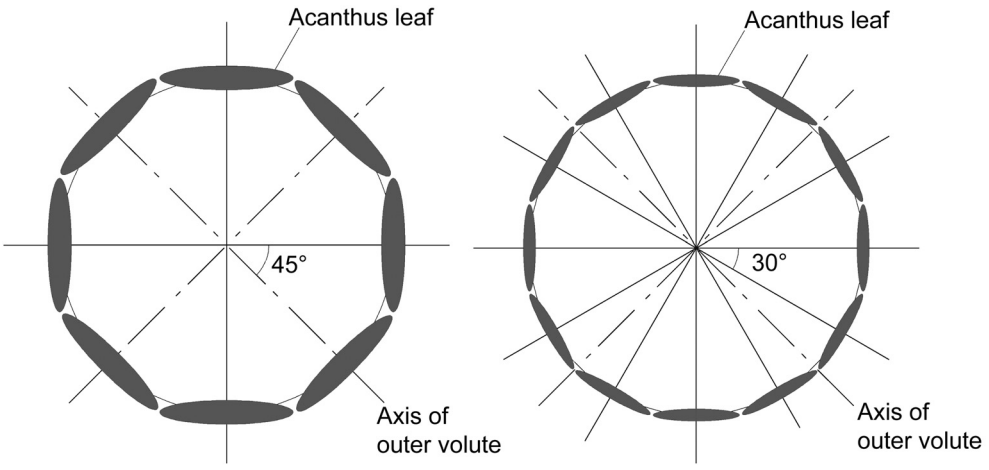

Figure 8: Sectional model of the two Corinthian types (at the first acanthus leaves)

Table 1: Measurements of the Corinthian capitals (m)

	No. of blocks	Upper column diameter	Height of the first acanthus tie	Height of the block	Height of the capital
Big Capital (with eight acanthus leaves)	C02	0.551	0.19	0.684	0.601
	C03	0.561	0.19	0.752	0.595
	C04		0.20	0.65	0.591
	C05	0.55	0.20	-	-
	C06	-	0.21	-	-
	C08	-	0.18	-	-
	C14	-	-	-	-
	C16	0.544	0.19	-	-
	C20	-	0.20	-	-
	C24	-	0.21	0.619	0.586
	C26	-	0.16	-	-
	Av.	**0.552**	**0.197**	**0.676**	**0.593**
Small Capital (with twelve acanthus leaves)	C07	-	0.14	0.622	0.451
	C09	-	-	-	-
	C10	0.517	0.15	0.589	-
	C11	-	0.145	0.522	0.458
	C12	-	-	-	-
	C15	-	0.15	0.626	-
	C17	-	0.12	0.529	0.450
	C18	-	0.15	0.657	0.454
	C19	-	0.18	-	-
	C21	-	0.15	0.66	-
	C22	-	0.16	-	-
	C25	0.536	0.16	-	-
	C27	0.548	0.16	0.565	0.463
	C28	-	-	-	-
	C29	-	-	-	-
	C30	0.504	0.127	0.567	0.464
	Av.	**0.526**	**0.149**	**0.593**	**0.457**
Others	C01	-	0.23	-	0.641
	C23	-	0.15	-	0.454
	C26	-	0.16	-	-

The square shaped abacus is surrounded by a quarter of circular or hyperbola arcs on the four sides. The four corners of the abacus are cut away on the edges. The abacuses are slightly facing down, so that the section of the abacus shapes a trapezoid at the four corners. There is a thin taenia on the top of the kalathos. An acanthus leaf is set in the central axis of the façade in order to put sculptural decoration on the central axis[18]. The second tie leaves are put between the first tie leaves. The outer volute of the big capital is supported by helices, which spring out between the second leaves. On the other hand, the outer volute of the small capital is supported by the second leaf directly (Fig. 8)[19]. Therefore, the second acanthus leaf is crushed by the outer volute from its bottom. Most of the caulis is sprouting between the second acanthus leaves[20]. Especially, C17 has an extremely big outer volute so that there are acanthus leaves which are lower than the others (ca. 12 cm height). The capital with a figured sculpture always has an inner tendril to support the figure's hands on each side. However, in the case of a capital without sculpture, the inner tendril was never found. Unfortunately, no big type capital with a remaining outer volute was found. Nonetheless, there is

no doubt that the outer capital had an outer volute, because of the crack at the abacus corner.

In the middle of the capital façade, there are figural and vegetable sculptures. The sculpture is on the top a two-leaf calyx, which sets on the central façade of the capital. The sculpture consists in a figure at the upper part and an acanthus leaf at the lower part. These figural sculptures are supposed to be Eros or Nike, because some of it is humped with an arrow tube (Figs. 4, 6)[21]. The wings are put over the abacus, and both widely opened arms are put upon the inner helices in each. Of course, the figured decoration of the bigger capital is larger than in the small one. C12 has a particular vegetable motif and a very big outer volute. The vegetable sculpture is also crowned upon the caulis. A thin straight tendril grown up between the two-leafed calyxes, reached palmetto set on abacus.

Some Messenia capitals with vegetable motif have been found. The figural and vegetable motives are never used together in the same capital[22]. There is no relationship between the placement of order and the choice of the decorative motif[23]. In the small type capital, there are four capitals with figured motif and four with vegetable motif. In big type capitals, there are seven capitals with figured motif and five capitals with vegetable motif. Thus, it seems that there is no relationship between the choice of motif and the capital type. The choice of motif was depending on the architect's inspiration.

There are three capitals, which belong to an irregular type. C01 has a very similar shape with a big type capital, but the acanthus leaf at the first tie is not on the central axis (thus the outer volute is directly supported by an acanthus leaf like in the small capital type). The figured sculpture is clearly bigger than the others[24]. C23 has a tetragonal kalathos with a big outer volute, a 15 cm high acanthus leaf, and eight leaves in each tie. This capital might have been reused in the Christian period. C26 has small acanthus leaves (ac. 16 cm) and the second tie has a central acanthus leaf on the central axis[25].

About 12 m of the entablature of the east stoa was excavated intact. It had fallen down on the east side of the altar[26]. It was found 5.3 m away from the east stoa with its exterior facing down and with its geison touching the altar all the way long. A part of the entablature of the west stoa was also found at the west side of the temple. It is about 9.5 m long and 4.3 m away from the west stoa. It was found as well with its exterior down and with its geison touching the crepis of the temple. These entablature blocks do not remain in good condition in comparison with those beside the altar, probably because of the impact when it fell. A small piece of Corinthian capital is included in these blocks from the west stoa. This piece is an upper part of a Corinthian capital (C28). It shows the characters of the small capital type in scale (the height of the abacus). This fact will support the hypothesis that the small type capital was used in the outer colonnade.

One Corinthian capital with white stucco has been founded in this survey. This stucco is only a few centimeters thick. It is supposed that the capital was finished by stucco like other Hellenistic buildings, but it is also not easy to discard the possibility of the restoration after an earthquake, which happened around the first century A. D. There is a small hall (ca. 3×9 cm) on the center of capital top, which is spreading at the bottom. This hall is supposed to be used as a hanging tool, when the block was pulled up[27]. Some lever halls, which aim to set the architrave blocks from the upper side, were found on the top of the capitals.

The capital blocks are made of poros stone[28]. It is not clear why the architect chose poros stone for the construction. Probably one of the reasons is that it was easy to crave their complicated shape of decorative parts. There was a circular bedding on the top of the capital, with a diameter of 0.27 m, projecting 1 cm to place an architrave above (Figs. 4, 6). This circular bedding part is very common in Greek architecture; however it is not clear what its function is. One of the possibilities is that it is made for protecting the abacus edge from the architrave block, which could be bent by the weight[29]. As far as the author knows, probably no other scholars have mentioned this technique.

4. Styles and Significances

As discussed above, there are two Messenia Corinthian capitals; one has eight-acanthus leaves and the other one has twelve acanthus leaves. Dinsmoor mentioned that the Corinthian capital of the temple of Apollo Bassitas in Bassae (about 430 - 400 B. C.) is the first example of the Corinthian capital. The most up-dated drawings are in a publication by Dr. F. Cooper, who made restored drawings[30]. According to his drawings, the Corinthian capital of Bassae has sixteen acanthus leaves (Fig. 9). The Corinthian capital of Tholos in Delphi (about 400 B. C.) is supposed to have used fourteen acanthus leaves. However, these capitals have not remained in good condition. After the fourth century, most of the Corinthian capitals have eight acanthus leaves, except for the Corinthian capital of Lysikrates (334 B. C.). The small capital of Messene is a particular example which has more than eight acanthus leaves even though it is in the Hellenistic period.

The Greek Corinthian capital had a tradition of central decoration, especially in Peloponnesus. The Corinthian capital of the temple at Bassae had a pelmet in the central axis (Fig. 9). Closer parallel models with Messene are the Corinthian capitals of Tegea and Nemea (Fig. 10), which have an axial leaf in their central façade[31]. Probably, this tradition of a central axial leaf in Peloponnesus might have influenced the Messenia capitals[32]. The Corinthian capitals of the Tholos of Epidauros and the Athenian Asklepieion has inner caulis combined elements, but no central figure between them. The Messenia capital is close to these Peloponnesus capitals. Probably only the Messenia capital has a central figural decoration in its central axis, with hands supported by two caulis on each side in the Hellenistic period.

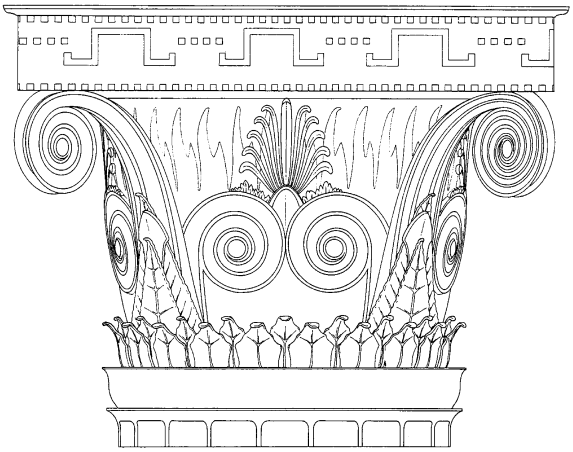

Figure 9: Reconstructed Corinthian capital from the Temple of Apollo Bassitas, Bassae (after F. A. Cppoet, *The Temple of Apollo Bassitas*. vol. 4, 1992, Plate 49)

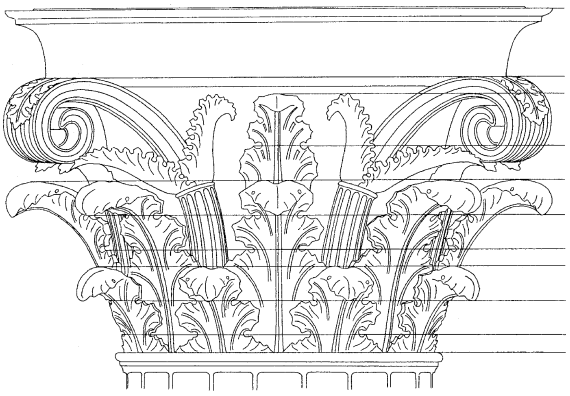

Figure 10: Reconstructed Corinthian capital from the Temple of Athena Alea at Tegea (after A. Frazer, *The Propylon of Ptolemy II* (1990), p. 175, Plate 119)

According to Themelis, excavator, the figured motif of big capitals is defined as Eors, and the one of small capitals is Nike[33]. There are very few examples of capitals with Eros and Nike in mainland Greece, but there are four capitals with Eros and three capitals with Nike in the east Mediterranean world[34]. At Pergamum, there are few examples of using Eros as an ornament of architecture, but they are not capital[35]. The sofa capital of the Apollon Temple in Didyma (300 B. C. and later) is another fascinating example of a figured motif (Fig. 11)[36]. This anta capital is semi-vegetable (acanthus leaves) and semi-human (the waist of the women wearing a cithon). This figure of Didyma looks very much like the one of Messene. There is also a figured capital from

the Agora of Salamis (2nd century B. C.). This figured capital has a bullhead on each side, like the big volutes of Ionic capitals, and a semi-human, semi-vegetable figure on its central façade of it[37]. Therefore, the figural motif tradition was common in the Hellenistic world, but it is probable that the Messenia Corinthian capitals were the first example, which use figural motif, in Peloponnesus.

Figure 11: A figured capital from the Apollon Temple, Didyma (after T. Weigand, *Didyma*, Berlin, 1941, Plate 219)

5. Summaries and Conclusions

The Messenia capital of the Askleipeion has not been investigated after the excavation of Orlandos in 1950. In this study, the author made a research about the Corinthian capitals of Messene, and analyzed their architectural character. Two types of capital were present at the same time in the same building. The central axial character of the Messenia capital seems to follow the tradition of Peloponnesus, where had been used the Corinthian capital with the central axial leaf. The axial planning method was developed in the Hellenistic period[38]. The figural motif was already common in the Hellenistic period. Nonetheless, the combined use of figural and vegetable motif was very unique in the main land Greece at that time. The structure of the central decoration, supporting Nike and Eros by two caulis on both sides of their hands, was probably an invention of a Messenia architect. Following the axial tradition of Peloponnesus, the Messenia Corinthian capitals were more decorative and high-positioned on the facade, since they were influenced by the Hellenistic culture. The chronological character of Messenia capitals is not very clear, but approximately follows the dating of the last quarter of 3rd century B. C. The evaluation is based on the information coming from the excavation. There is no doubt that the use of Corinthian capitals in Messene is related to the patronage of a Hellenistic king, but we are still awaiting new elements of information about the political and economical situation at that time.

Acknowledgement

This article has grown out a part of my doctoral dissertation, "A Study of the Stoa of the Asklepieion of Ancient Messene," which was submitted to the Kumamoto University in 2005. The Architectural Mission to Greece of the Kumamoto University, conducted by prof. Juko Ito, made an architectural survey of the Asklepieion of Messene from 2001 to 2004, and the author joined this mission as a student member. The survey and the research were funded by the Grant-in-Aid for Scientific Research (B) (2000-03, leader: J. Ito) and by the Grant-in-Aid for Scientific Research

(A) (2004-06, leader: J. Ito), both of which were provided by the Japan Society for the Promotion of Science. The doctoral study was founded by the Architectural Institute of Japan Kyusyu Branch (2003) and by the Grant-in-Aid for Young Scientists (B) (2007). The detailed analysis of the Corinthian capital is based on our postdoctoral research at the Aristotle University of Thessaloniki in 2006 with a scholarship of I. K. Y. (the Greek State Scholarships). First of all, I would like to thank Dr. Petros Themelis, president of the Society of Messenian Archaeological Studies, for his very kind permission to study the material from the Stoa of the Asklepieion. I also indebted to Mr. Juko Ito, professor at the School of Architecture, Kumamoto University, for his introduction to my doctoral study and his advice for my study; to Mr. Yoshinobu Hayashida, prof. at the Miyakonojo National College of Technology, also for giving me advices for my study; to Ms. Klery Palyvou, assos. prof.at the Department of Architecture, Aristotle University of Thessaloniki, for accepting me as a postodoctoral researcher of I. K.Y., and to Mr. Konstantinos Tokmakidis, prof. at the Department of Rural and Surveying Engineering, Aristotle University of Thessaloniki, for helping me continue my study in Greece. A preliminary report of the architectural study of the Asklepieion was published in Japanese language in 2007, and the final report will be published in the near future.

Notes

1 Pausanias, "Description of Greece" IV, 27, 5–7, Jones, W. H. S., The Loeb Classical Library, Cambridge/Mass., London, 1977.

2 A. Blouet, *Expédition Scientifique du Morée*, Paris vol. 1, 1831, pp. 19–46, Pls. 18–47.

3 Prof. A. Orlandos made short annual reports to the archaeological service of Greece. Although Orlandos reported about the site annually in these articles, the final report was not published. Orlandos made some drawings of the Asklepieion with a scale of about 1 to 500 in *Praktika* (=*ΠΑΕ*) and *Ergon*, but there are neither dimensional data nor a description of the details: A. K. Ολάνδως, "Νεάτεραι Έρευναι εν Μεσεήνη (1957-1973)," in H. von U. Jantzen (ed.), *Neue Forschungen in Griechischen Heiligtumern*, Tubingen, 1974; id, "Ανασκαφή Μεσεήνη," *ΠΑΕ* 1957, σσ. 121–125, Σχε. 53–58; 1958, σσ.177–183, Σχε.137–142; 1959, σσ.162–173, Σχε.136–145; 1960, σσ.210–227, Σχε.162–169; 1962, σσ.99–112, Σχε.103–120; 1963 σσ.122–129, Σχε.94–105; 1964, σσ.96–101, Σχε.99–109; 1969, σσ.98–120, Σχε. 121–136; 1970, σσ.125–141, Σχε.172–184; 1971, σσ.157–171, Σχε. 191–03; 1972, σσ.127–138, Σχε. 103–116; 1973, σσ.108–111; "Ανασκαφή Μεσσεήνη," *Ergon* 1957, σσ. 75–80; 1958, σσ. 142–148; 1959, σσ. 110–117; 1960, σσ. 159–167; 1962, σσ. 119–132; 1963, σσ. 88–102; 1964, σσ. 90–101; 1969, σσ. 97–132; 1970, σσ. 100–131; 1971, σσ. 144–173; 1972, σσ. 67–83; 1973, σσ. 79–82; 1974, σσ. 62–73; 1975, σσ. 107–116; id, "Messene," BCH 82, 1958, pp. 714–717; 83, 1959, pp. 636–639; 84, 1960, pp. 695–700; 85, 1961, pp. 697–703; 87, 1963, pp. 768–777; 88, 1964, pp. 734–742; 89, 1965, pp. 729–732; 94, 1970, pp. 984–989; 95, 1971, pp. 892–895; 96, 1972, pp. 60–66; id, "Messene," *American Journal of Archaeology (AJA)* 67, 1963, pp. 281–282; 75, 1971, pp. 308–310.

4 Π. Θέμελης, "Ανασκαφή Μεσσεήνη," *ΠΑΕ* 1986, σσ. 74–82, Σχε. 17–22; 1987, σσ. 73–104, Σχε. 64–80; 1988, σσ. 43–79, Σχε. 31–57, 1989, σσ. 63–122, Σχε. 54–94; 1990, σσ. 56–103, Σχε. 31–74; 1991, σσ. 85–128, Σχε. 50–78; 1992, σσ. 60–87, Σχε. 20–27; 1993, σσ. 48–72, Σχε. 25–49; 1994, σσ. 69–99, Σχε. 19–48; 1995, σσ. 55–86, Σχε. 13–42; 1996, σσ. 139–171, Σχε. 53–72; 1997, σσ. 79–113, Σχε.32–65; *Ergon* 1986, σσ. 100–105, Σχε. 76–80; 1987, σσ. 98–104, Σχε. 119–127; 1988, σσ. 27–46; 1989, σσ. 30–37; 1990, σσ. 26–35; 1991, σσ. 28–35; 1992, σσ. 27–41; 1993, σσ. 26–43; 1994, σσ. 37–42; 1995, σσ. 34–42; 1996, σσ. 47–57; 1997, σσ. 34–42; 1998, σσ. 39–50; 1999, σσ. 45–56; 2000, σσ. 58–70; 2001, σσ. 46–53; 2002, σσ. 27–3; *id*, "Das Gymnasion von Messene in der Römischen Zeit," Griechenland in der Kaiserzit, Bern.

5 Our permission of survey was limited only to the stoas and Sevasteion by the Society of Messenian Archaeological Society. Other buildings such as the Doric temple, Ekklesiasterion, Bouleuterion and Artemision have been studied by other architects and archaeologists. The site situation before the excavation was reported by the excavator but not detailed, and it is unknown to what extent the architectural remains have been exposed on the earth. See A. Orlandos, *ΠΑΕ* 1970 σσ. 137–138, Πίν. 182-183.

6 The latest result of this study has been published in Japanese as preliminary report, and it will translated into English in the near future. See also, R. Yoshitake, *et. al*., "A Survey of the Stoas of the Asklepieion in Messene," *Journal of Architecture, Planning and Environmental Engineering*, Architectural Institute of Japan, No. 576, 2004, pp. 207–214.

7 J.J. Coulton, "Why choose Doric? The significance of the orders in Hellenistic architecture," in *Symposium for International Collaborative Studies on Ancient Messene*, Tokyo, June 29, 2002, pp. 40–55.

8 W. B. Dinsmoor, *The Architecture of Ancient Greece*, 1950, p. 157.

9 The Hippodamian street system is being investigated by Mueth-Herda, S. of Free University of Berlin, and her study will be published in the near future. For partial results, see Mueth-Herda, S., "Street Network and Town Planning of Ancient Messene," in *Symposium for International Collaborative Studies on Ancient Messene*, Tokyo, June 29, 2002, pp.16–30.

10 The angles are: 90.008 degrees between the east and the north stoa, 89.973 between the north and the west stoa, 90.022 between the west and the south stoa, and 89.997 between the south and the east stoa.

11 Prof. Themelis wrote a series of articles about the new dating of Damophon and the first phase of Asklepieion which is at the End of the 3. c. B. C. and the begining of the 2. c. B. C. and combines the whole program of the sanctuary with the political situation of the city at this period: Themelis, P. G., *Ancient Messene - Site and Monuments Athens*, 1998, p.17, *id*., "Damphon von Messene - Sein ZWerk im Lichte der neuen Ausgrabungen," *Antike Kunst* 36, 1993, pp. 24–40, pls. 3–9. This was supported also from the data of the excavations in the old sanctuary in the south of the big court (where ceramics and coins were found), and also from the data (inscriptions and coins) of the excavations in the temple of Artemis Ortheia from the 4. c. B. C. at the northwest corner of the sanctuary: Χλέπα, Ε. Α., *Μεσσήνη: το Αρτεμίσιο και οι οίκοι της δυτικής πτέρυγας του Ασκληπιειού*, Αθήνα, 2001. According to the doctoral study of Dr. Sioumpara, the forms of the Doric temple can be dated in the first half of the 2. c. B. C.: Sioumpara, E. A., *Der Asklepiostempel von Messene auf der Peloponnes - Untersuchungen zur hellenistischen Tempelarchitektur*, Institut für Klassische Archäologie der Freien Universität Berlin, *Berlin 2006 (in print)*. Although, the dating of the temple is not very specific, first because there are a lot of classical forms which were used by the architect in the building, and second because a more exact dating of the forms is almost impossible for the Hellenistic period, especially for the doric order. See the monography of F. Rumscheid, *Kleinasiatische Bauornamentik des Hellenismus* (1994). Several repairing in the buildings are also attested from the study of their architecture (for the Ekklesiasterion, Propylon, and for the temple of Asklepios, etc.) but it is very difficult to say exactly when they took place in the Roman period. For the repairs at the stoas, there is an inscription.

12 This is a general discussion. There are some examples which have twenty flutes in Ionic or Corinthian column. In the Corinthian column shaft of the Temple of Zeus at Nemea, twenty flutes were used. B. H. Hill, *The Temple of Zeus at Nemea*, Princeton, 1966, p. 28.

13 This kind of aesthetic effect of flutes was not necessary for the inner columns and this is the reason why the inner columns were reeded all the way around. The reeded flutes must have been created originally in order for the normal flutes not to be damaged by the ciculation of people around the columns. This kind of technique can also be seen in the lower part of the Doric columns of the Stoa of Attalos, which were unfluted. Coulton mentions the role of the reeding of the flutes in his book as 'a very common practice in Hellenistic stoas'. The purpose was presumably to avoid damage to the fragile arrises from the traffic passing through the colonnade. See J. J. Coulton, *The Architectural Development of the Greek Stoa*, Oxford, 1976, p.112.

14 A. Orlandos said "the capitals of the stoas were made of poros and Corinthian which were found many years before and that year too. The lower part of capital has acanthus leaves and the upper part has a figure of Nike (Pl. 182 α), or of Eros (Pl. 182 β)." (in Greek) *ΠΑΕ* 1970, p. 137.

15 It is not easy to make a definition of the Corinthian capital, but in this study, the author uses the term 'Corinthian capital,' which has a bell-shaped body with acanthus leaves and outer volutes.

16 In this study, the height of capital means the distance between the bottom end of first step acanthus leave and the top end of the capital, which is not including the molding of the necking.

17 This presumption was also supported by a piece of small capital, which was found near the altar. This capital piece belonged to the amount of architrave blocks, which fell down by an earthquake.

18 Some Corinthian capitals (C01, C26) have an acanthus leaf in the middle of the second tie.

19 This Corinthian capital (C11) has twelve leaves in one tie, and has a bigger outer volute than the others (Table 1).

20 Some caulises (C11, C17) begin from the top of the second acanthus leaves in order to make enough space for the very big outer volute.

21 There is a Master thesis with a more detailed analysis about the figural motif from the view point of the historian of art: Natalia-Mihaela Toma, *Die Bauromantik der Stoen des Asklepieions von Messene – Zur Typologie, Chronologischen Einordnung und Funktion der Figuralkapitelle*, Institut für Klassiche Archäologie der Freien Universität Berlin, June 2006.

22 Only one capital (C12) had both a figured and a vegetable motif at the same time.

23 The Corinthian capital (C12) which has both a vegetable and a figural motif belongs to the small type capital. However, it does not mean that this capital was used in the corner column of the outer colonnade in order to use different motifs in each stoa. Both decoration motifs are used in big type capitals.

24 This Corinthian capital (C01) is supposed to be used in the main column of the North Propylon. It is quite sure that the capital of North Propylon is bigger than the ones of the stoas, because the lower diameter of the column of the North Propylon (0.698 m) is bigger than the ones of the stoas (av. 0.626 m and av. 0.667 m).

25 These three capitals are after analysis capitals of the stoas (Table 1).

26 This kind of collapse of colonnades also happened in the east and west stoas which surround the Stadium in Messene. Many columns of the stoas have fallen down in a row at the same time. See Themelis: *ΠΑΕ* 1997, Fig. 51.

27 G. Roux, *L'Architecture de l'Argolide aux IV et III siecles av. J-C*, Paris, 1961.

28 The Hellenistic architect of Messene chose to use poros stones for the decorative part of the buildings. The main part of the order of the stoas was made of poros stones, without sima and antifex.

29 In Pomeji, the Corinthian order is used in many buildings, not only Public building but also domestic ones. The author has investigated these Corinthian capitals in 2003. There are 199 architectural blocks which are made of tuff, limestone and marbles. The circular swelling part can be seen in every capital, except for the capitals which are made of marble. Tuff stone is mainly used in domestic buildings, and they have a high swelling part. Probably, there is a relationship between this finishing technique and the strength of the stone.

30 F. A. Cooper, *The Temple of Apollo Bassitas*, vol.1–4, 1992, Princeton: Vol. I, pp. 305–310. See Ch. 29 of the Corinthian capital. Many researchers have drawn this Capital, but these drawings differ very much in shape. Moreover, the Bassae capital is now lost.

31 See B. H. Hill, *The Temple of Zeus at Nemea*, Princeton, 1966, pp. 29–33, Fig. 35–36, Plate. 26; N. J. Norman, *The Temple of*

Athena Alea at Tegea, AJA 88, 1984, pp. 169–94, Pls. 29–31. According to Hill, "The Corinthian capitals from both the Nemea and the Tegea temples have a central leaf that overlaps the midpoint of the other abacus." However, the reconstructed drawing is based on poor remaining of collapsed pieces. Nowadays, we can see the photographs of the capitals in the special Hill's file at the Blegen Libraries of the American School of Classical Studies at Athens.

32 For further comparative study, we must consider the whole Hellenistic world. A. Frazer mentioned that "In sum, then, the Corinthian capitals from the western façade of the Propylon most closely resemble the earlier capitals from the temples at Tegea and Nemea in their structural components....," K. Lehmann and P. W. Lehmann, *Samothrace; Excavations Conducted by the Institute of Fine Arts*, New York University (Bollingen Series 60, 1958–); vol. 10, A. Frazer, *The Propylon of Ptolemy II*, 1990, p. 177.

33 *Themelis* 1994. Themelis mentioned this Eros and Nike motif of Messene was developed and diffused in the decoration motif of the relief of Foro of Trajanus in Rome, which is a semi-human and semi-vegetable winged young boy, feeding a griffin. However, there are more than 300 years difference between the construction of the Asklepieion (the last quarter of the 3rd century B. C.) and of the one Foro of Trajanus (about A. D. 100), and their relation is not clear.

34 For Eros, see Eugen von Mercklin, *Antike Figuralkapitelle*, Berlin, 1962, pp. 55–56, pl. 248, 251, pp. 252–255. About Nike, see: *Ibid*, pp. 56–57, pls. 255, 258, and 260.

35 Pamela A. Webb, *Hellenistic Architectural Sculpture - Figural Motifs in Western Anatolia and the Aegean Islands*, London, 1996, pp. 31–32.

36 T. Weigand, *Didyma*, Berlin, 1941, Pls. 107–110.

37 Webb, *ibid.*

38 About the axial plan of the sanctuary in the Hellenistic period, see. J. Ito, *Theory and Practice of Site Planning in Classical Sanctuaries*, Fukuoka, 2002.

PRELIMINARY REPORTS OF THE SYRIA-JAPAN ARCHAEOLOGICAL JOINT RESEARCH IN THE REGION OF AR-RAQQA, SYRIA, 2007

INTRODUCTION

Michel Al-MAQDISSI*
Katsuhiko OHNUMA**

On February 15th of the year 2007, the Syria-Japan Archaeological Joint Research in the Bishri Region started. Since then, four times of the joint research were carried out until December of the same year. Four preliminary reports presented here in the following sections were submitted to the Directorate General of Antiquities and Museums in Damascus each time the research was completed.

This Syria-Japan Joint Research, supervised by Al-Maqdissi from the Syrian side and Ohnuma from the Japanese side, is an important component of the Japanese archaeological project entitled "Formation of Tribal Communities in the Middle Euphrates", totally supported by the Japanese Ministry of Culture, Science, Education and Sports for the period from 2005 to 2009.

Composed of 15 research teams specialized in natural and cultural sciences, this Japanese project is a multi-diciplinary one to be carried out in the Bishri region on the Middle Euphrates, North-East Syria. This region has been identified by many scholars as a primary homeland of the builders of the ancient civilizations of West Asia, represented by the Assyrians and the Babylonians.

The Syrian Directorate General of Antiquities and Museums agreed with the aim of this Japanese project, and have been cooperating with the Japnese scholars towards the success of the project.

Listed below are the 17 research teams constituting the joint research.

1) Supervising Team "Archaeological Research in West Asia based on Integrated Research Methods" (Director: Katsuhiko Ohnuma)
2) Research Team "Relationship between the Behavioral Evolution and the Process of Sedentalisation during the Palaeolithic Period in West Asia" (Director: Hiroyuki Sato)
3) Research Team "Expansion Process of Food Production Economy and Formation of Community in the Arid Area of West Asia" (Director: Yoshihiro Nishiaki)
4) Research Team "A Comparative Study on the Burial Patterns of the Pastoral Nomadic Tribes" (Director: Sumio Fujii)
5) Research Team "A Study of the Process of Urbanization in West Asia" (Director: Akira Tsuneki)
6) Research Team "Integrated Research on the Assyrian Civilization in Northern Mesopotamia" (Director: Hirotoshi Numoto)
7) Research Team "Establishment and Development of the Civilization of Sumerian Writing System" (Director: Kazuya Maekawa)
8) Research Team "Development of City-States and the Tribes in West Asia" (Director: Akio Tsukimoto)
9) Research Team "Environmental History of the Middle Euphrates based on Environmental

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Geology, Environmental Chemistry and C14 Dating" (Director: Mitsuo Hoshino)
10) Research Team "Biological Features of the Ancient Inhabitants of the Middle Euphrates and its Peripheral Region" (Director: Hidemi Ishida)
11) Research Team "Zoological and Botanical Archaeology in the Prehistoric to the City-State Societies of West Asia" (Director: Hitomi Hongo)
12) Research Team "A Study on the Styles and the Genealogy of Masonry Techniques in Ancient West Asian Architecture" (Director: Yasuyoshi Okada)
13) Research Team "Basic Structure and Re-arrangement of the Bishri Mountains Tribal Culture in the Ancient Oasis City, Palmyra" (Director: Saeko Miyashita)
14) Research Team "Developing Data-base of Archaeological Sites of West Asia: An Investigation through the Analysis of Satellite Images" (Director: Ken Matsumoto)
15) Research Team "An Archaeological Study on the Nomadic Tribal Communities in Northern Eurasia: A Comparative Study" (Director: Shu Takahama)
16) Research Team "A Study of the Process of Urbanization in the Steppical Border of Syria in the Third and Second Millennia B.C." (Director: Michel Al-Maqdissi)
17) Research Team "A Study of the Bronze Age Pottery Obtained by the Syria-Japan Archaeological Joint Research in the Region of Ar-Raqqa" (Director: Michel Al-Maqdissi)

All of the research teams above aim to clarify, through a harmonized cooperation of natural and cultural sciences, changes of natural environment, patterns of settlement, subsistence patterns, human biological features, architectural styles, artistic styles and social relationship, aiming also to clarify how ancient pastoral nomadic tribes contributed, with their repeated influx and efflux, to the emergence of agriculture-based city-like societies in the region.

The members who participated in the four times of the joint research in the year of 2007 are as follows:

Syrian party: Anas Al-Khabour (director), Shaker Al-Shbib (director), Ayham Al-Fahry, Mahmmod Al-Hassan, Ibrahim Musa, Mohamad Ali Jajan and Mohamad Ibrahim.

Japanese party: Katsuhiko Ohnuma (director), Hiroyuki Sato, Masanobu Tachibana, Yoshihiro Nishiaki, Tomoyasu Kiuchi, Sumio Fujii, Takuro Adachi, Kae Suzuki, Akira Tsuneki, Atsunori Hasegawa, Hirotoshi Numoto, Izumi Yoda, Harumi Horioka, Haider Urebi, Mitsuo Hoshino, Tsuyoshi Tanaka, Toshio Nakamura, Hidekazu Yoshida, Takeshi Saito, Kazuhiro Tsukada, Yusuke Katsurada, Ken-ichi Tanno, Lubna Omar, Chie Akashi, Yasuyoshi Okada, Naoko Fukami, Ryuichi Yoshitake, Yo Negishi, Shouko Ueda, Natsuko Fujikawa, Saeko Miyashita, Ken Matsumoto, Hitoshi Hasegawa, Tomoya Goto, Shu Takahama, Toshio Hayashi, Ryuji Matsubara and Toshiki Yagyu.

On the occasion that we have completed four times of joint research in the field near the city of Ar-Raqqa, we present here in the journal *Al-Rāfidān* all of the four preliminary reports, in the hope that we can proceed further to attain the aim of our joint research.

Dr. Bassam Jamous, Director General of the Syrian Directorate General of Antiquities and Musems, kindly understood this archaeological project into its realization, and we express our sincerest garatitude to him for his warm-hearted cooperation.

31/December/2007

ARCHAEOLOGICAL SURVEY IN THE BISHRI REGION SOUTH OF RAQQA — REPORT OF THE FIRST WORKING SEASON —

Katsuhiko OHNUMA*
Shaker Al SHBIB**
(5/March/2007)

1. Introduction

The first working season of the 2007 Syria-Japan archaeological joint research in the Bishri region was initiated on February 15 and was completed on March 3.

The members who participated in this joint research from Syrian and Japanese missions are as follows.

Syrian mission: Anas Al Khabour (director), Shaker Al Shbib (director), Nawras Mohamad, Ayham Al Fahry, Mahmmod Al Hassan and Ibrahim Musa.

Japanese mission: Katsuhiko Ohnuma (director), Sumio Fujii, Saeko Miyashita, Hirotoshi Numoto, Akira Tsuneki, Atsunori Hasegawa, Tomoyasu Kiuchi, Lubna Omar, Izumi Yoda and Yasuyoshi Okada.

Dr. Bassam Jamous, Director General of the Syrian Directorate General of Antiquities and Musems, and Dr. Michel Al Maqdissi, Director of Archaeological Excavations and Research at the Syrian Directorate General of Antiquities and Musems, kindly understood this archaeological project and cooperated towards its realization. We express our sincerest gratitudes to them for their warm-hearted cooperation. We also thank Mr. Samer Abdel Ghafour of the Syrian Directorate General of Antiquities and Musems for his kind help and cooperation.

2. Topography of the surveyed areas

The region between the city of Raqqa on the middle Euphrates and the northern edge of the Mount Bishri can be divided into three fundamental areas from geomorphological points of view.

The first of these areas is the riverside plain, which extends into west and east directions in the width of 1 to 4 km along the Euphrates. This area is irrigated now using water from the Euphrates, and its most parts are utilized as grain fields. There are some small villages at the southern edge of the riverside plain.

The second area is the Euphrates plateau between the riverside plain and the Mount Bishri. This plateau is some 100 m higher than the riverside plain, and the boundary line between the riverside plain and the plateau is formed very steeply. The inner parts of this plateau, however, are almost flat, and we could find ore of gypsum in a large quantity. There are some huge *wadis*, but this flat area is a dry and wild moorland. In this area, therefore, only nomadic people live today, pasturing their sheep and goats.

The third area is the mountain named *Jabal Bishri*. The highest altitude of this mountain is some 800 m, but it is too gradually sloped to tell the boundary between the plateau and the mountain area.

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** Director of the Syrian Archaeological Mission to Bishri (Directorate General of Antiquities and Musems, Damascus, SYRIA)

3. Surveys of archaeological sites and birs

In this working season, two kinds of surveys were undertaken in the area between the city of Raqqa and the northern edge of the Mount Bishri, within the roughly triangular plateau surrounded by the towns of Mansura, Rasafa, Ghanem al-Ali and Hauijt Shnnan (Map 1).

One of the two surveys was aimed to map archaeological sites with sampling of archaeological specimens, and another was aimed to map *bir*s (wells).

In the following sections, archaeological sites and *bir*s which we mapped during the surveys are briefly described.

Survey of archaeological sites

Rasafa North is a small mound located some 2 km north from the town of Rasafa. We collected potsherds of the Byzantine and Umayyad periods (Map 1).

Kherbet al-Halul is a town with a surrounding wall. It is located some 25 km south from the town of Rasafa. Potsherds of the Byzantine and Umayyad periods were collected (Map 1).

Barayt Tell Hammam is located at the town of Baluda, 10 km north-east from the town of Mansura. It is a low mound, reminiscent of an open-air site, seemingly located on the lower terrace of the Euphrates. We collected Middle Palaeolithic artifacts from this mound (Map 1).

Site GCHS C113 is a medium-sized tell located 1 km south from Barayt Tell Hammam. At this site with a bench mark GCHS C113, we collected potsherds of the Byzantine period (Fig. 1).

Al-Hura is a small tell 2 km south from Site GCHS C113. Potsherds collected date this site to the Roman, Byzantine, and Umayyad periods (Map 1; Fig. 2).

Bir Kredy is located 15 km east from the town of Mansura. Judging from potsherds collected, this site with a well in its center is dated to the Byzantine and Umayyad periods. The well is said to be 70 m deep (Map 1; Fig. 3).

Al-Qabu al-Saghir is located some 24 km south-east from the town of Mansura. It is also a site surrounding a well, said to be 170 m deep. Potsherds collected date this site to the Buzantine period (Map 1; Fig. 4).

Tell Muheir is a medium-sized tell located some 30 km south-east from the town of Mansura. It is basically a natural mound, on which several graves and structures are remaining. Most of the potsherds collected are dated to the Islamic period. It is probable that this natural mound was often used in the past before the Islamic period, for it stands very clear on the flat plateau (Map 1; Fig. 5).

Tell Muheir East is a small tell some 1.5 km east from Tell Muheir. We collected few Islamic potsherds at this site (Map 1).

Tell Hammadin is a medium-sized tell located 800 m north from the Raqqa/Deir-ez-zor road at the town of Al-Jibly. It is located on the riverside plain of the Euphrates. Many potsherds of the Bronze Age are distributed on its surface (Map 1; Fig. 6).

Ghanem al-Ali A-E is a complex of small tells located 600 to 800 m east from the Ghanem al-Ali/Jabal Bishri road, at the spot 3 km south from the Raqqa/Deir-ez-zor road. Site A is a complex of mounds, shaped like Letter L. The length of this site complex is 300 m and the width 50 m. Site B is shaped oblong, 100 m in length and 30 m in width. Potsherds distributed on these sites are similar to those from Tell Hammadin. It is strongly suggested, therefore, that Site Ghanem al-Ali A-E is dated back to the Bronze Age. The looting of archaeological objects from this site is remarkable (Map 1; Figs. 27, 28).

Nakhila is located some 23 km south-east from the city of Raqqa and south of the Euphrates. It faces the village named Al-Rabt, located 500 m south from the Raqqa/Deir-ez-zor highway road. This Islamic castle, built on the northern edge of the cliff, measures 100 m from the north to south and 40 m from east to west. The base of the castle was constructed with square-shaped gypsum.

The wall built of baked bricks remains on the gypsum base. The height of the south-east wall is 3 m. The use of baked bricks on gypsum bases as architectural materials is the typical feature of the Islamic period. The castle, at least, has two gates at south-east and north-east parts. Potsherds distributed on the surface are dated to the Byzantine and Islamic periods (Figs. 16-19; Maps 1, 2).

Qala't Safin is located some 16km south-east from the city of Raqqa and south of the Euphrates. It is located on the northern edge of the steep cliff named "Jabal Safin", south of the Raqqa/Deir-ez-zor highway road. This Islamic castle is similar to that at Nakhila and measures 60 m from east to west and 30 m from north to south. The plan of this castle is roughly rectangular. Different from Nakhila, most of the building materials are square-shaped gypsum. Two rooms, at least, stick out from the south wall (Fig. 22). It seems that this castle was a kind of defense structure such as watch-tower facing the *Jabal Bishri*. Potsherds of the Byzantine and Islamic periods are distributed on the surface.

Qart al-Sud, located 2-3 km east from Qart al-Beit, is a *cairn* constructed on the top of a natural hill. Several stones were used to construct this grave. It has a circular plan and measures 1.2 m in diameter and 1 m in hight. At the center of this *cairn*, there is a small hollow facing north-east (Fig. 25). No potsherds were collected around the *cairn*, and the period of its construction is unknown. It seems that many *cairn*s are distributed in the plateau, especially on the tops of natural hills (Fig. 26).

Survey of *Bir*s

In this working season, we surveyed the places with names *bir* and *jlib*, meaning well on the map published by the Syrian government (S=1/50,000). According to the map, there exist wells in more frequencies in the eastern part of the plateau than in the western part.

We surveyed 5 wells: Bir Bueidan, Jlib al-Hardan, Bir al-Mazyd, Bir Khatun and Bir Mazra' at al-manarh (Maps 1, 2).

Bir Bueidan is located some 6 km south from the northern edge of the plateau and 6.5 km south of the village named *Ghanem al-Ali*, located on the junction point of the Aleppo-Deir-ez-zor road and the road to *Jabal Bishri* (Map 1). This well measures 1.4 m in diameter (Fig. 7), and is attached with a kind of water-supply system for sheep and goats running into north-east direction. The wall of this *cairn* is made from basalt (Fig. 8). It does not produce water now, and no potsherds were collected.

Jlib al-Hardan is located some 1.5 km south-west from Bir Bueidan and some 4.5 km south from the northern edge of the plateau (Map 1). It measures about 2 m in diameter and is enclosed with concrete. It has three water-paths (Fig. 9). One of these is made from concrete, but the other is constructed with basalt and is broken (Fig. 10). It seems clear that this well was repeatedly scraped and reused.

Bir Khatun is located some 6 km south-east from Ghanem al-Ali and 4 km south from the northern edge of the plateau (Map 1). Measuring 1.5 m in diameter and being enclosed with concrete (Fig. 11), this well has two water-paths. One of these, extending into north-west direction, is made with several blocks of basalt, and the other directed to south-east is made with gypsum. Both of these water-paths are broken, and the well does not produce water.

Bir Ali al-Mazyd is located some 500 m south-east from Bir Khatun (Map 1). It measures 1 m in diameter and has two water-paths (Fig. 12). This well, like others, is called Bir Ali al-Mazyd after the name of a man who constructed the wells. It produced water until recent days but it is abandoned now, because nomadic people nowadays get water from modern equipments such as water wagon. According to a man living near the well, people at this place used *bir*s before 30 years ago. Many ores of basalt are scattered on the west part of Bir Ali al-Mazyd and Jlib al-Hardan, suggesting that this place used to be one of the sources of basalt on the plateau and the plain.

Bir Mazra' at al-Manarh is located some 10 km west from Ghanem al-Ali and 3 km south

from the northern edge of the plateau (Map 3). It is located on the center of a small mound (Fig. 13). This well has a square hall cutting into the bedrock (Fig. 14). It seems that this well has a kind of water-supply system at the western side (Fig. 15). Aso, this well does not seem to have been constructed by nomadic people. It does not produce water now.

All of the wells reported above are located in the areas within the distance of some 6 km south from the northern edge of the plateau. It is important to collect information in more details about the dates of wells on the plateau, as to when nomadic people used them.

4. Perspectives of future research

The Syria/Japan joint research entitled "Formation of Tribal Communities in the Bishri Mountains on the Middle Euphrates" aims to clarify, by means of integrated research methods by different scientific fields, how sedentary and nomadic tribal communities contributed to the formation of agriculture-based city-state societies in the Middle Euphrates.

In order to approach this subject, a series of research are indispensable as follows.

1) Sites-distribution survey in the area between the city of Raqqa and the northern edge of the Mount Bishri
2) Dating of the sites surveyed
3) Selection of a site for excavation in order to clarify processes when and how agriculture-based city-state societies appeared in the area
4) Confirmation of activity traces of nomadic tribes represented by the *Amorite* in the process of formation of city-state societies

In this working season, we undertook surveys of archaeological sites and of *bir*s in the triangular area surrounded by the towns of Mansura, Rasafa, Ghanem al-Ali and Hauijt Shnnan.

These two kinds of surveys have made it clear that there is a bias in the dates of the sites distribued on the Euphrates plateau between the towns of Mansura and Ghanem al-Ali.

Most of the sites in the western part of the plateau are dated to the Roman, Byzantine and Islamic periods, while in the eastern part only a few sites are distributed but several of them are dated back to the Early Bronze Age.

Fortunately enough, we have confirmed a small-scaled site complex, which are dated back to the Early Bronze Age on the basis of pottery features. We named this site complex "Ghanem al-Ali A-E" because there are no villages in its surroundings. This site complex is located near to Tell Ghanem al-Ali (ca. 5 km) and Tell Hammadin (ca. 10 km), both of which are dated back to the Early Bronze Age.

On the riverside plain of the Euphrates near the city of Raqqa, there are many sites that can be dated back to the Early Broze Age such as Tell Bia'a and Tell Thadin, in addition to Tell Ghanem al-Ali and Tell Hammadin.

As just mentioned, the aim of this Syria/Japan joint research is to clarify the process how agriculture-based city-state societies appeared in the area between the city of Raqqa and the northern edge of the Mount Bishri.

In order to attain this aim, it is indispensable to proceed the research by means of three methods as follows.

1) Excavation at a site, such as Tell Ghanem al-Ali and Tell Hammadin, located on the Euphrates riverside plain
2) Excavation at the site of Ghanem al-Ali A-E, located on the Euphrates plateau near to its northern edge
3) Survey on the Euphrates plateau in order to trace movements of nomadic tribes in archaeological context


Al-Raqqa
Mansura
Barayt tell Hammam
Al-Hura
Bir Kredi
Hauijt Shnnan
Qala't Safin
Nakhila
Tell Ghanem al-Ali
Ghanem al-Ali
Ghanem al-Ali A–E
Tell Hammadin
Tell Muheir East
Tell Muheir
Al-Qabu al-Saghir
Shwihan East
Rasafa North
Habit al-Nuq
Rasafa
Kherbet al-Halul
JABAL BISHRI
Map 1
N
0
10
20km


N
Tell Hammadin
Tell Ghanem al-Ali
Ghanem al-Ali
Bir Khatun
Bir Ali al-Mazyd
Jlib al-Hardan
Bir Bueidan
Map 2
0
5km

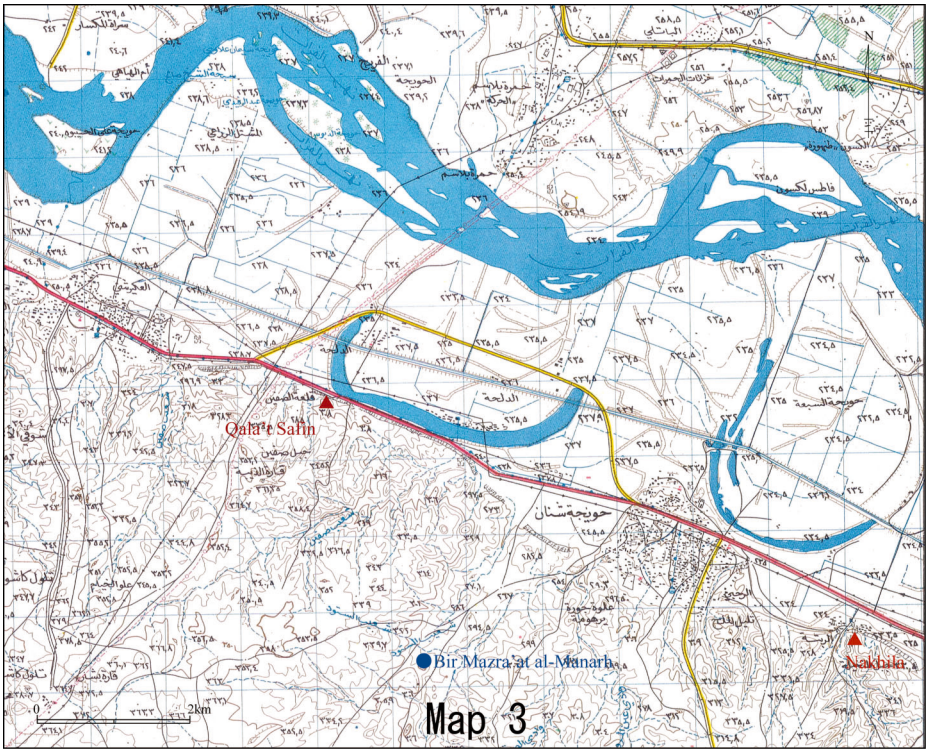

Fig. 1 View of Site GCHSC

Fig. 2 View of Site al-Hura

Fig. 3 Bir Kredy

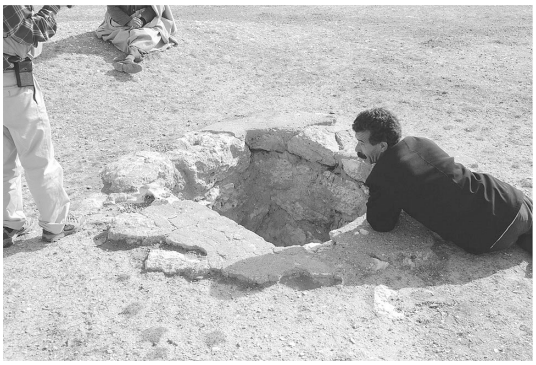

Fig. 4 Bir at al-Qabu al-Saghir

Fig. 5 View of Tell Muheir

Fig. 6 View of Tell Hammadin

Fig. 7 View of Bir Bueidan

Fig. 8 Well of Bir Bueidan

Fig. 9 View of Jlib al-Hardan

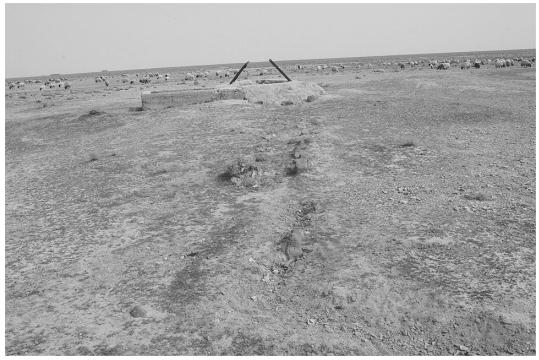

Fig. 10 Broken waterway made from basalt

Fig. 11 View of Bir Khatun

Fig. 12 View of Bir Ali al-Mazyd

Fig. 13 View of Mazra' at al-Manarh

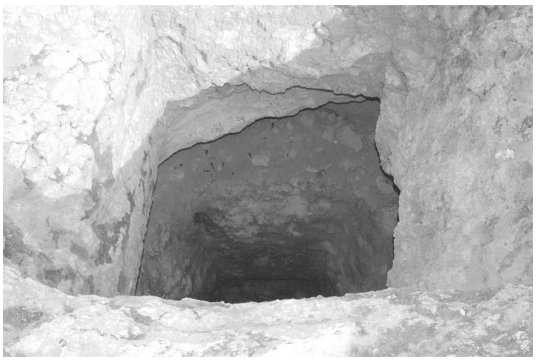

Fig. 14 Well of Mazra' at al-Manarh

Fig. 15 Probable water-supply system

Fig. 16 View of Nakhila

Fig. 17 View of Nakhila

Fig. 18 Northern corner of Nakhila

Fig. 19 South wall and gate of Nakhila

Fig. 20 View of Qala't Safin

Fig. 21 Room in the south-east part

Fig. 22 Room sticking out

Fig. 23 View of cairn from north

Fig. 24 View of cairn from west

Fig. 25 Center of cairn (Shallow hollow)

Fig. 26 Another cairn

Fig. 27 View of Ghanem al-Ali A

Fig. 28 Remarkable looting at Ghanem al-Ali A

Photo 1 Potsherds and glass objects from Rasafa North

Photo 2 Potsherds from Kherbet al-Halul

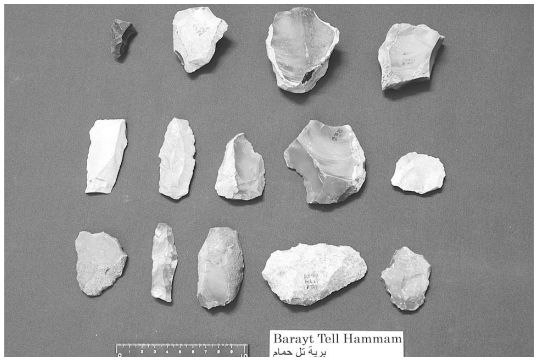

Photo 3 Lithic artifacts from Barayt Tell Hammam

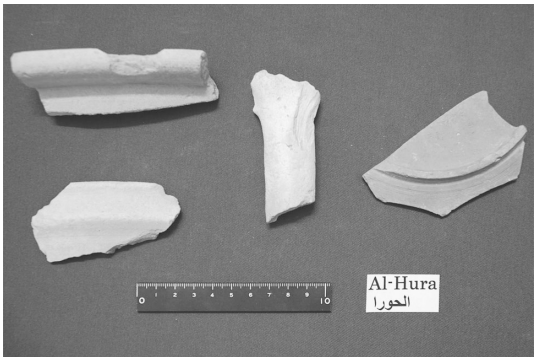

Photo 4 Potsherds from Al-Hura

Photo 5 Potsherds from Bir Kredy

Photo 6 Potsherds from Al-Qabu al-Saghir

Photo 7 Lithic artifacts from Tell Muheir East

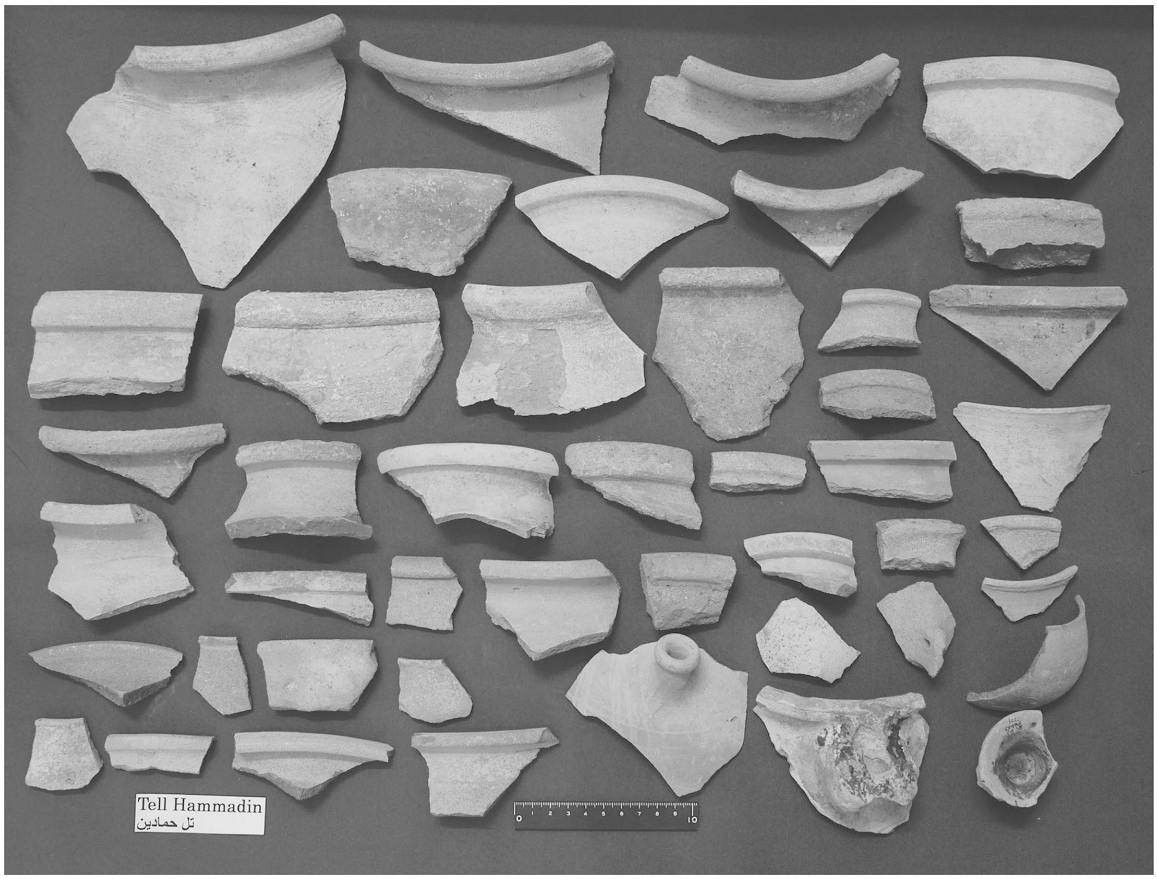

Photo 8 Potsherds from Tell Hammadin

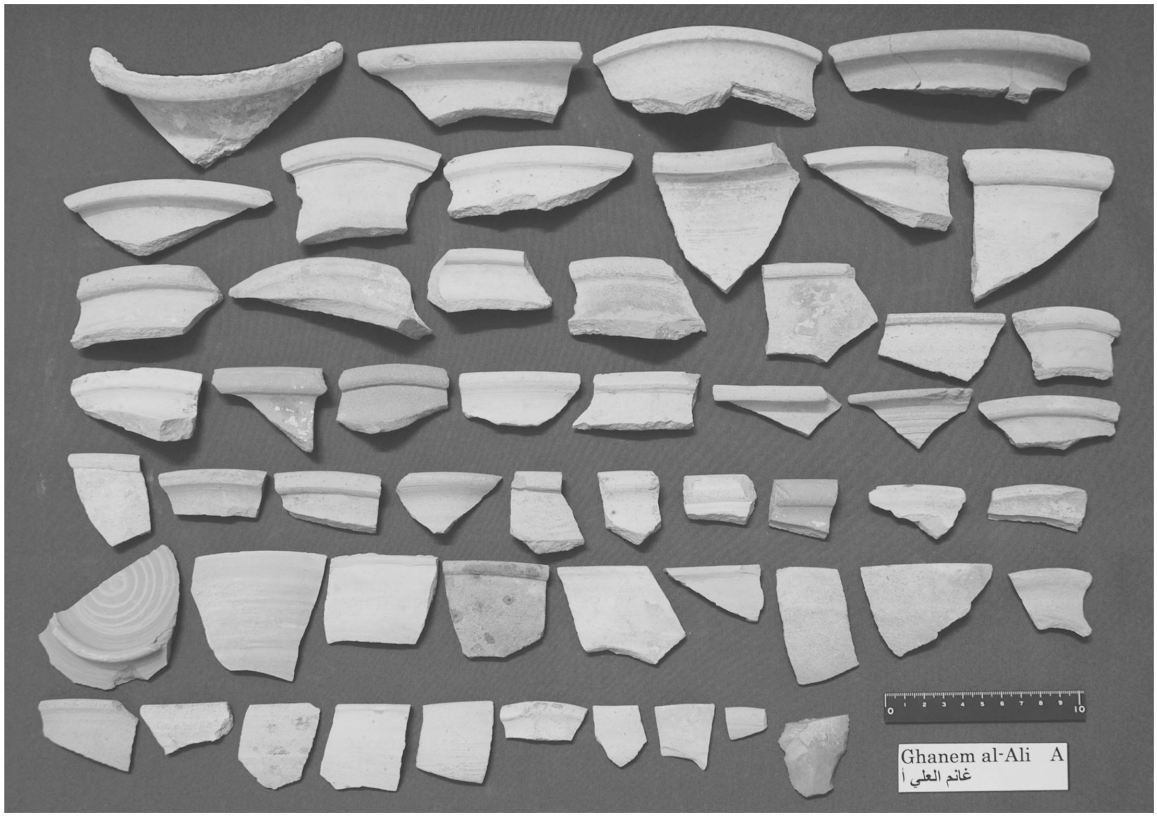

Photo 9 Potsherds from Ghanem al-Ali A

Photo 10 Potsherds from Ghanem al-Ali B

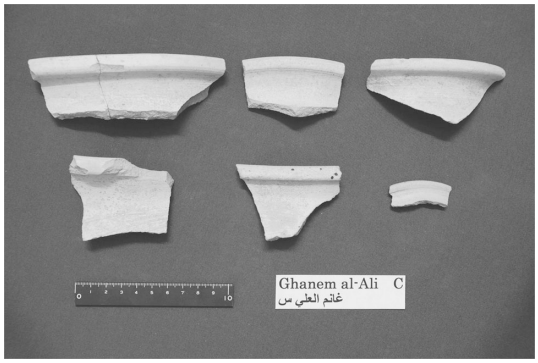

Photo 11 Potsherds from Ghanem al-Ali C

Photo 12 Potsherds and lithic artifacts from Ghanem al-Ali D

Photo 13 Potsherds from Nakhila

تقرير عن إعمال البعثة الأثرية السورية اليابانية المشتركة في البشري الموسم الأول 2007

عنوان البحث : (تشكيلات المجتمعات القبلية في منطقة جبل البشري و الفرات الأوسط)

بدأت البعثة الأثرية السورية اليابانية المشتركة أعمالها في المسح الأثري لمنطقة جبل البشري بتاريخ 15-1-2007 و لغاية 3-3-2007 .

تألفت البعثة من (16) عضوا من كلا الفريقين السوري و الياباني , يدير الجانب السوري انس الخابور و الجانب الياباني كاتسوهيكو اونوما .

قسم العمل من وجهة نظر جيومورفولوجية الى ثلاث مناطق :

1- المنطقة الأولى : منطقة السهل النهري ، باتجاه شرق غرب بعرض يتراوح بين (1-4) كم على طول نهر الفرات .
2- المنطقة الثانية : ضفة النهر أو المصطبة النهرية ، و تمتد بين السهل النهري و جبل البشري جنوبا.
3- المنطقة الثالثة : منطقة جبل البشري الذي يبلغ ارتفاعه (800) متر تقريبا.

المناطق و المواقع و الآبار الممسوحة:

تم تنفيذ نوعين من المسوحات خلال العمل الحقلي لهذا الموسم ، امتدت بين مدينة الرقة و الحافة الشمالية لجبل البشري ، لتأخذ هذه المنطقة شكل مثلث حددته البلدات التالية : المنصورة – الرصافة – غانم العلي – و حويجة شنان .

المسح الأول : تم تتبع خريطة المواقع و البقايا المعمارية الأثرية ، و شمل مناطق تعود للفترة البيزنطية و الإسلامية مثل : الرصافة الشمالية – خربة الحالول – تل مهيرا – نخيلة

و للفترة البيزنطية و الرومانية : الحورا – القبو الصغير

كما عثرنا على مواقع تعود من خلال اللقى الصوانية إلى العصر النيوليتي.

المسح الثاني : مسح الآبار الأثرية :

تم مسح كامل الأماكن التي حملت اسم بئر و لوحظ توزع الآبار في القسم الشرقي ضم اكبر عدد من الآبار الموجودة في الجزء الغربي .

و في هذا الموسم قمنا بمسح خمسة آبار هي : بئر بويضان – جليب الحردان – بير علي المزيد – بير خاتون – بير مزرعة المنارة

نتائج البحث :

أعمال المسوحات أكدت وجود توازي في الفترات التاريخية التي تعود إليها المواقع بين بلدتي المنصورة و غانم العلي حيث تعود لفترات رومانية ،بيزنطية ،إسلامية

أما مواقع الجزء الشرقي و في معظمها مواقع صغيرة أرخت على فترة البرونز المبكر

خطة العمل المستقبلية :

يهدف المشروع عن طريق الاستعانة بتقنيات و علوم مختلفة لتوضيح فكرة : (كيف ساهمت المجتمعات القبلية المستقرة و المتنقلة بتشكيل البنى الزراعية لمجتمعات الفرات الأوسط)

و سيتم التنقيب في احد التلال مثل تل غانم العلي و التلال المجاورة و مسح الهضبة لتتبع آثار حركة القبائل الرحل ضمن هذا المحتوى الأثري.

ARCHAEOLOGICAL RESEARCH IN THE BISHRI REGION — REPORT OF THE SECOND WORKING SEASON —

Katsuhiko OHNUMA*
Anas Al-KHABOUR**
(30/May/2007)

The second working season of the Syria-Japan Archaeological Joint Research in the Bishri Region started on May 6th and ended on May 30th, 2007.

The members of the joint research who participated from the Syrian and Japanese missions are as follows.

Syrian mission: Anas Al-Khabour (Director), Ayham Al-Fahry and Mahmmod Al-Hassan.

Japanese mission: Katsuhiko Ohnuma (Director), Hirotoshi Numoto, Tomoyasu Kiuchi, Atsunori Hasegawa, Chie Akashi, Sumio Fujii, Saeko Miyashita, Takuro Adachi, Kae Suzuki, Lubna Omar and Kenichi Tanno.

In this working season, we undertook two kinds of research: 1) making of an overall plan of the site of Tell Ghanem al-Ali and 2) survey of cairns in the area between the city of Raqqa and the northern edge of the Mount Bishri (Map 1).

Dr. Bassam Jamous, Director General of the Syrian Directorate General of Antiquities and Musems and Dr. Michel Al-Maqdissi, Director of Archaeological Excavations and Research at the Syrian Directorate General of Antiquities and Musems and the Syrian Supervising Adviser for this joint research, kindly helped us towards the success of this second season of work. We express our sincerest gratitudes to them for their warm-hearted cooperation.

1) Mapping of an overall plan of the site of Tell Ghanem al-Ali

(Completed overall plan is attached to this working report) (Fig. 1)

Tell Ghanem al-Ali is located some 500 m north from the Raqqa/Deir-ez-zor road near the town of Ghanem al-Ali (Map 2). Located on the southern riverside plain of the Euphrates, at the hight of 10 m above the river surface, this site measures some 400 m in the east-west direction and 300 m in the north-south direction (Photo 1). The bench-mark constructed on the top of this site reads 238.958 m above the sea (Photo 2).

Although many graves related to the nearby-village people are built on the top surface of this tell, many archaeological rooms constructed with local rocks are remaining in almost all the site area (Photo 3).

Judging from the potsherds collected during the first Syria-Japan Archaeological Joint Research carried out in February to March this year, this site dates back to the Early Bronze Age in the main (Photo 4).

On the riverside plain of the Euphrates near the city of Raqqa, there are a considerable number of sites that can be dated back to the Early Broze Age, such as Tell Bia'a and Tell Thadin, in addition to Tell Ghanem al-Ali and Tell Hammadin.

The aim of this Syria-Japan Archaeological Joint Research is to clarify how agriculture-based

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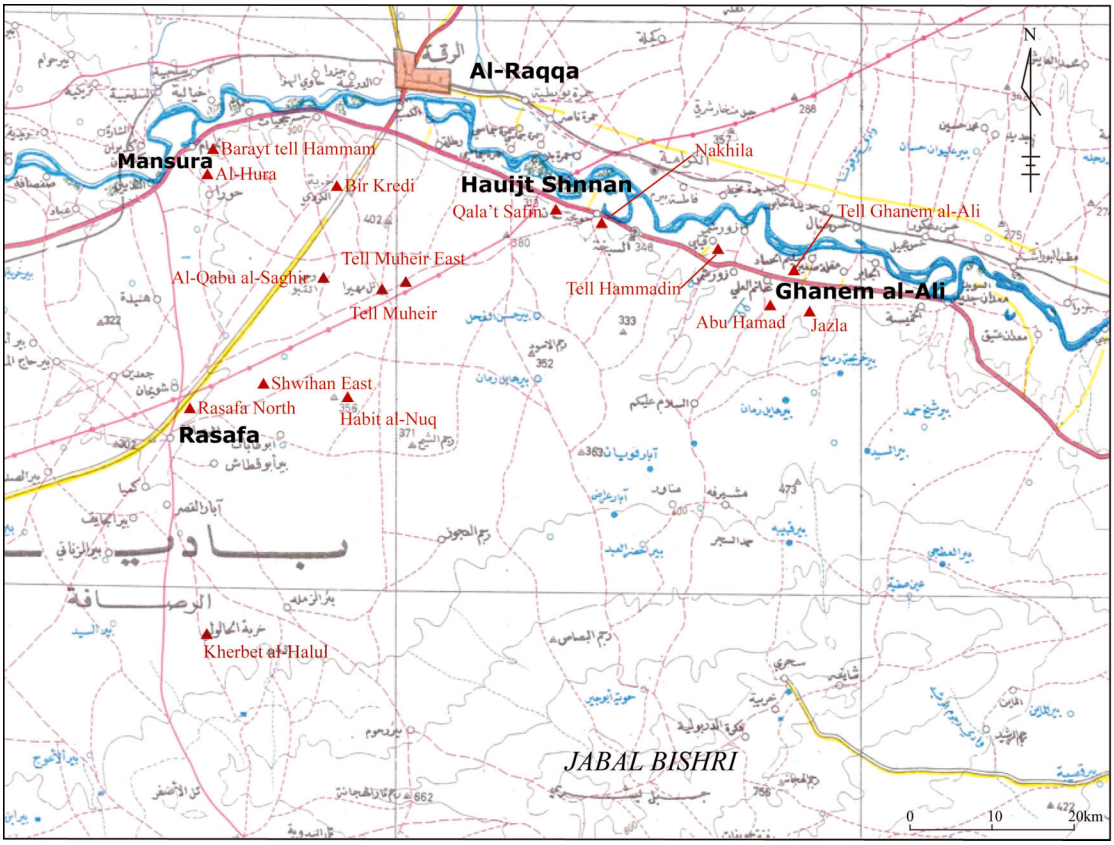
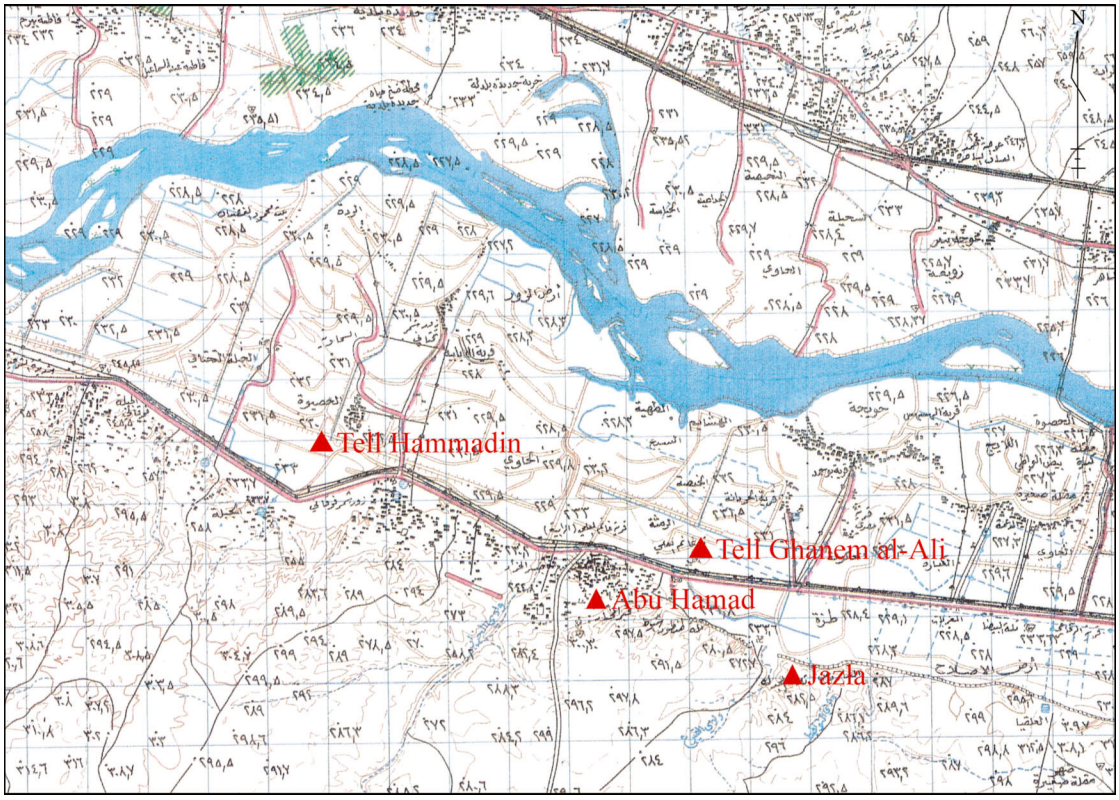
** Director of the Syrian Archaeological Mission to Bishri (Director, Department of Antiquities and Museums, Raqqa, SYRIA)



Map 1 Locations of sites included in the Syria/Japan Archaeological Joint Research



Map 2 Locations of the sites of Tell Ghanem al-Ali and Tell Hammadin and related sites of Abu Hamad and probable graves at Jazla

city-state societies appeared in the Middle Euphrates region around the city of Raqqa.

In order to attain this aim, it is indispensable to proceed the research by means of the following methods.

1) Excavations at the sites of Tell Ghanem al-Ali and Tell Hammadin, located on the Euphrates riverside plain.
2) Sounding research at nearby sites of the periods concerned, located near to the northern edge of the Euphrates plateau between the Euphrates riverside plain and the Mount Bishri.
3) Surveys including date-confirming soundings at cairn sites on the Euphrates plateau to trace movements of nomadic tribes in archaeological contexts. These surveys are essentially important to clarify how nomadic tribes represented by the Amorite contributed to the formation of agriculture-based city-state societies in the Middle Euphrates region around the city of Raqqa.

In connection with the research proceeding methods above, there are two sites that are indispensable to enrich the Syria-Japan Archaeological Joint Research.

One of them is the grave site of Abu Hamad dated to the Early Bronze Age in the main (Maps 1 and 2, Photos 5 and 6), located some 800 m east from the Ghanem al-Ali/Jabal Bishri road, at the spot 3 km south from the Raqqa/Deir-ez-zor road.

Another is a series of probable graves of the Early Bronze Age (Photo 7) distributed near the fortress of Jazla (Maps 1 and 2, Photo 8), some 2 km south-east from Tell Ghanem al-Ali along the escarpment between the Euphrates riverside plain and the Euphrates plateau.

In this working season, we completed the making of an overall plan of the site of Tell Ghanem al-Ali on May 25th. Taking into consideration the richness of the site of Tell Ghanem al-Ali itself and the abundance of the related sites in the surrounding area, we are quite certain that excavational works at Tell Ghanem al-Ali and Tell Hammadin, altogether with surveys in the surrounding area, will contribute a great deal to the clarification of unknown historical aspects of the Early Bronze Age in the Middle Euphrates region.

(Katsuhiko Ohnuma)

2) The General Survey of Pre-Islamic Burial Cairns in the Northern Flank of Jabal Bishri

A brief general survey focusing on pre-Islamic burial cairns (or stone-piled tombs) was conducted from May 22 to 29, partly in parallel with the main operation at Tell Ghanam Ali. This survey forms a part of the mother project headed by Prof. Katsuhiko Ohnuma and Dr. Anas Al-Khabour, and is intended to explore the socio-economical correlation between pastoral communities in the northern flank of Jabal Bishri and the urban-farming societies in the middle Euphrates river basin.

The reason why we focused on burial cairns is that, because of their high mobility and simple way of life, prehistoric herders generally leave no clear archaeological evidence other than their tombs. It is our primary goal to trace their social dynamics focusing on the tombs, the only key they left, and, in so doing, contribute to a more comprehensive understanding of the social diversity and complexity that underlay the early urban civilization in the middle Euphrates river basin.

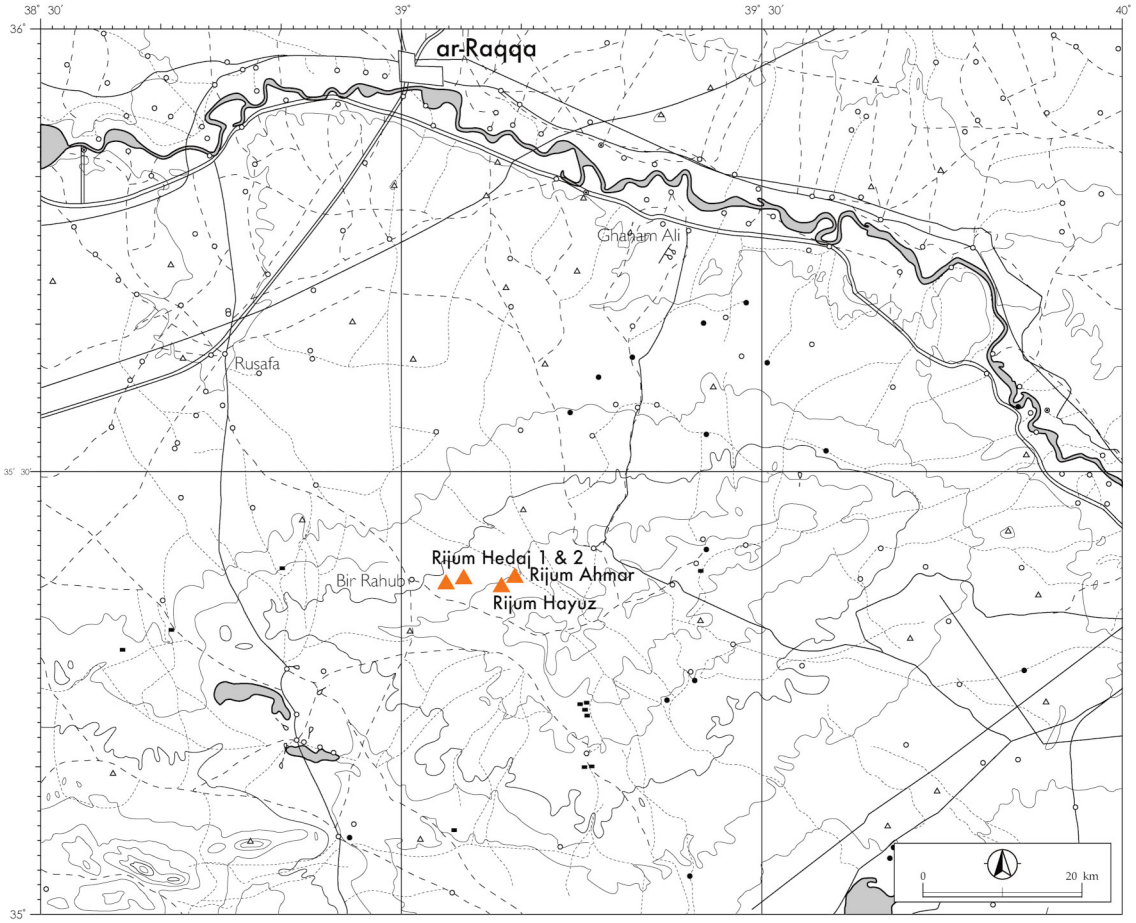
The Survey Staff

To ensure the mobility in desert, the survey staff was kept to the minimum. Sumio Fujii (Prof. of Kanazwa University, Kanazawa, Japan) headed the team; Takuro Adachi (Research Fellow of the Middle Eastern Cultural Center, Tokyo, Japan) and Kae Suzuki (BA Student of Kanazawa University) constituted it. In addition, Mahmmod Al-Hassan (the Department of Antiquities of Syria, Raqqa office) also joined the team as a representative of the Syrian mission.

The Operations

Since the research area defined by the contract was too large to be covered within a limited term, and since we are still inexperienced in this area, we adopted the following simple and easy approach. To begin with, we investigated a few dozen locations that were referred to as *rujm* (cairn) or *rijum* (cairns) in the 1/50,000 maps published in Syria. As a result, it has proved that most, if not all, of the locations dotted in the northern half of the survey area were either simple landmarks or stone triangulation markers, both built apparently in the recent past. No clear evidence for burial cairns was attested in this area.

Thus the second half of the survey was focused on the southern half, namely, the northern flank of Jabal Bishri, where several burial cairn fields (or clusters of burial cairns) probably dated to pre-Islamic times were located. Due to time constraints, they were not thoroughly investigated, but four of them — Rijum Hedaj 1 (BS-0701), Rijum Hedaj 2 (BS-0702), Rijum Hayuz (BS-0703), and Rijum Ahmar (BS-0704) — were recorded in some detail (Map 3).



Map 3 Cairn Fields located during the Survey

The Survey Results

The survey results of this field season can be summarized as follows:

1) The burial cairns in the northern flank of Jabal Bishri are round to slightly oblong in general plan, measuring ca. 5-15 m in diameter and 0.5-2.0 m in relative height. They were constructed with undressed limestone cobbles ca. 20-50 cm long easily available around the site.
2) Although they seemingly look like simple stone piles, some of them exposed circular foundations or a ring wall at their fringe (Photo 9) and/or an oblong cist in their center (Photo 10). It is

therefore evident that they represent burial cairns rather than simple landmarks.

3) They are often accompanied with a rectangular structure and a freestanding wall, thus forming a small structural complex (Photo 11). This also argues for the functional identification suggested above.
4) Since no reliable evidence is available, nothing specific can be said about their date. Nevertheless, the occurrence of red-slipped coarse ware sherds (Photo 12) and the general similarities to EB cist tombs in the Golan Height and southern Jordan seem to suggest an EB date for them. Given this, it might follow that they represent tombs of *Martu or Amurru*, large nomadic groups that Sumerian and Akkadian texts referred to as having infiltrated to their homeland from the Bishri (Basa'al) area.
5) This type of cairns are concentrated on the northern flank of Jabal Bishri. No parallel examples are attested in the northern plateau, to say nothing of the Euphrates river basin. In light of archaeological evidence from the site of Abu Hamad, a large cemetery behind Ghanam Ali, it appears that shaft tombs were the norm of the latter areas.
6) This probably means that the burial cairns belong to pastoral nomads to the south, and that the shaft tombs are unique to farmers to the north. The total absence of settlement sites in the Bishri northern flanks, together with the harsh environmental conditions, is consistent with this assumption.
7) The difference between the two types of tombs is not limited to their distribution and typology. While the Bishri cairns are usually oriented north-south, the shaft tombs at Abu Hamad are generally oriented east-west. Furthermore, while the former type of tombs are aligned along a ridge overlooking a major wadi system with keeping a substantial (more than 50-100 m) interval between any two examples (Photo 13), the latter occupies the flat terrain in the northern plateau and are closely-spaced with each other (Photo 14). Such contrasts also highlight the difference in socio-cultural background of both burial practices.
8) Thus the comparative study of the Bishri cairns and the Abu Hamad shaft tombs, for example, may provide a key to exploring the social diversity and complexity that underlay the early urban civilization in the middle Euphrates river basin.

Concluding Remarks

Due to time constraints, the survey itself was neither systematic nor comprehensive. Nevertheless, the finding of several cairn fields has enabled us to realize the archaeological potential of the Bishri area, which has long been regarded as an empty hinterland of the early urban civilization in the middle Euphrates river basin. The existence of probably coeval burial cairn fields in the northern flank of Jabal Bishri may lead to a reassessment of this traditional perspective.

What most interested us was the contrast between the Bishri cairns and the shaft tombs at Abu Hamad. This is interesting all the more because the latter may have served as a cemetery for Tell Ghanam Ali, the main concern of the mother project. Further investigation will hopefully provide insights into another aspect of the Early Bronze Age of this area. It seems that such a far-reaching paradigm shift is essential to an in-depth discussion on the social diversity of the early urban civilization in the middle Euphrates river basin.

(Sumio Fujii)

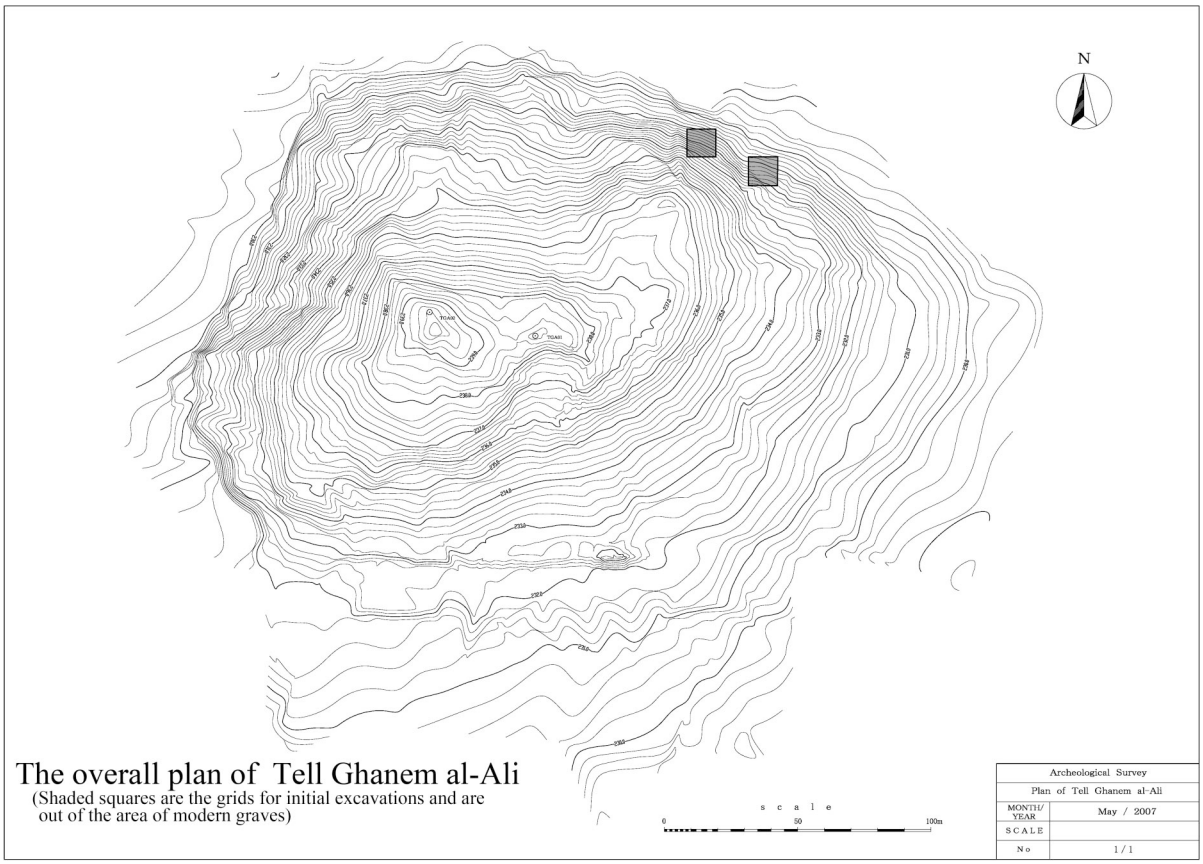


Fig. 1 Overall plan of Tell Ghanem al-Ali

Photo 1 Tell Ghanem al-Ali seen from the east

Photo 2 Bench-mark on the top of Tell Ghanem al-Ali

Photo 3 Remains of archaeological rooms on Tell Ghanem al-Ali

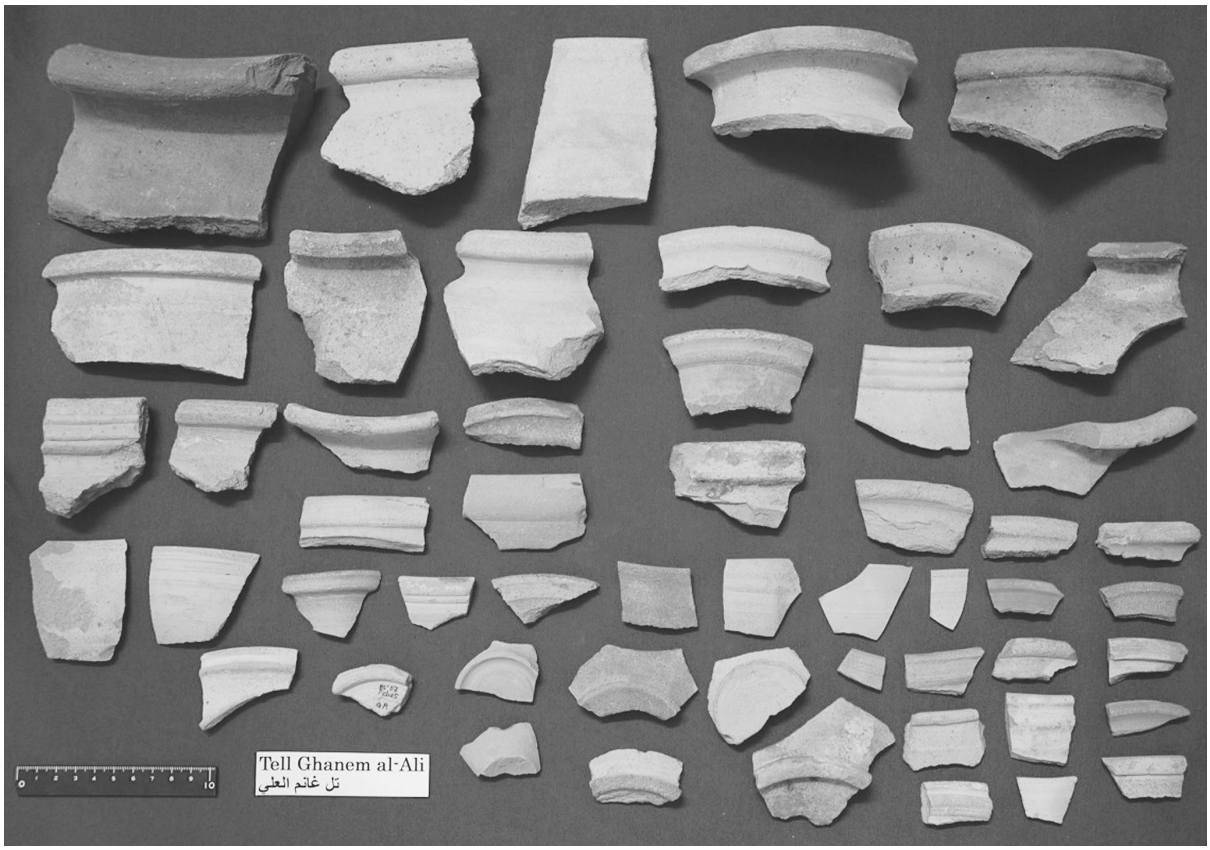


Photo 4 Potsherds collected from Tell Ghanem al-Ali in the 1st Syria/Japan Archaeological Joint Research in February to March, 2007

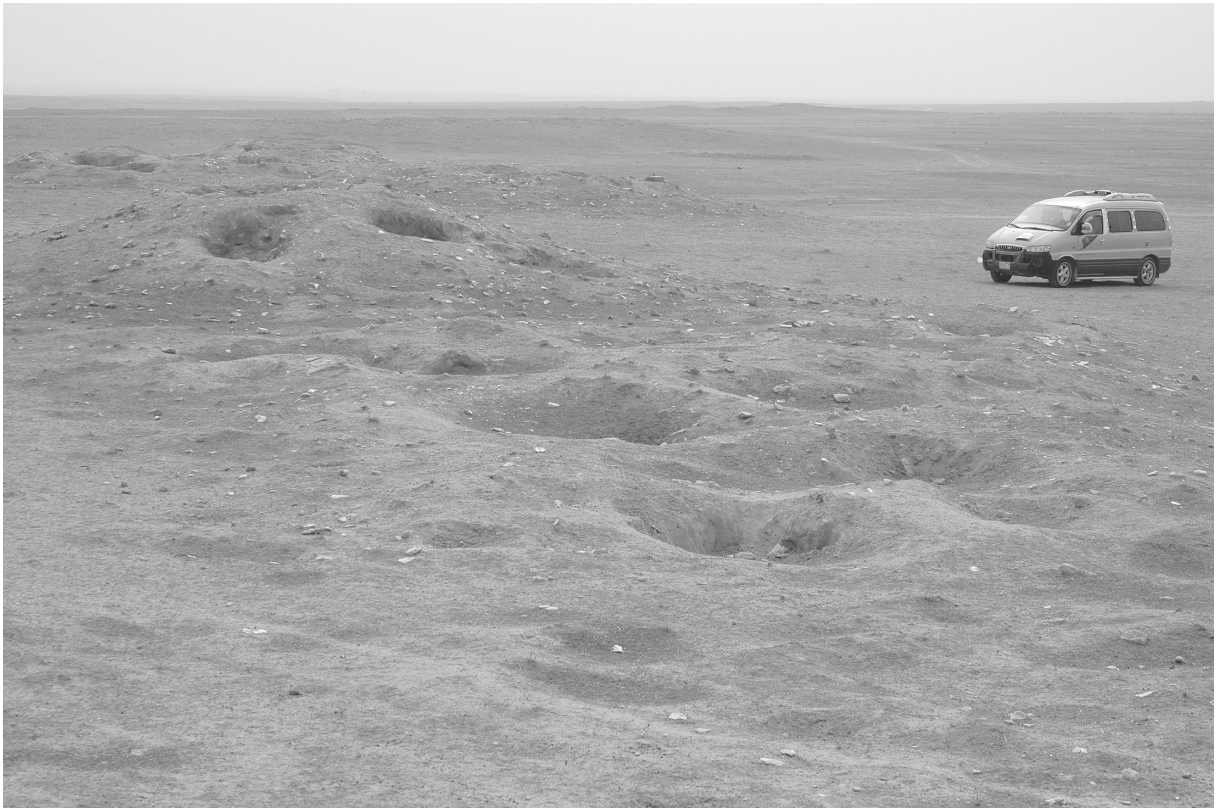


Photo 5 Site of Abu Hamad

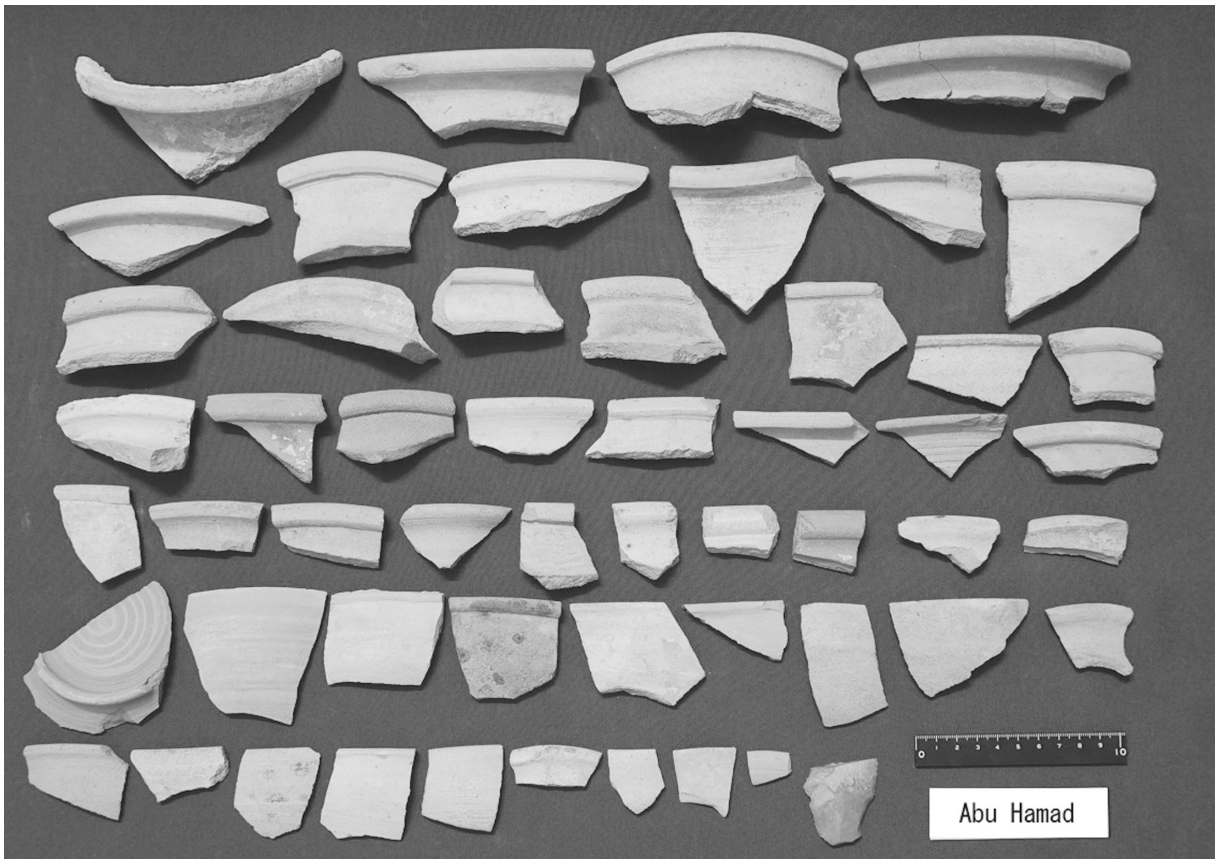


Photo 6 Potsherds from the site of Abu Hamad

Photo 7 Probable grave of the Early Bronze Age near the fortress of Jazla

Photo 8 Fortress of Jazla

Photo 9 Rijum Hedaj 1: Close-up View of Cairn No. 10 (note the foundation stone alignment)

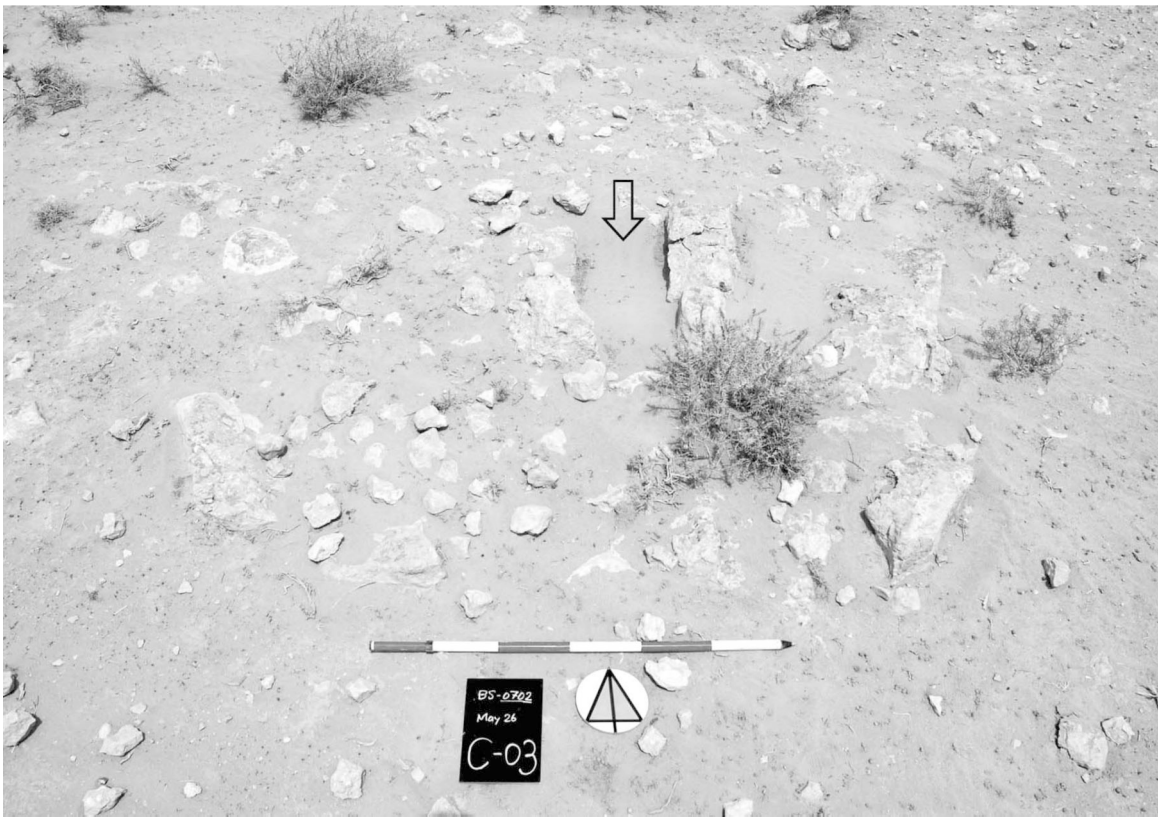


Photo 10 Rijum Hedaj 2: Close-up View of Cairn No. 3 (note an oblong cist exposed in the center of the erased mound)

Photo 11 Rijum Ahmar: A Structural Complex of Cairn No. 1

Photo 12 Rijum Hedaj 1: Surface Finds from Cairn No. 10

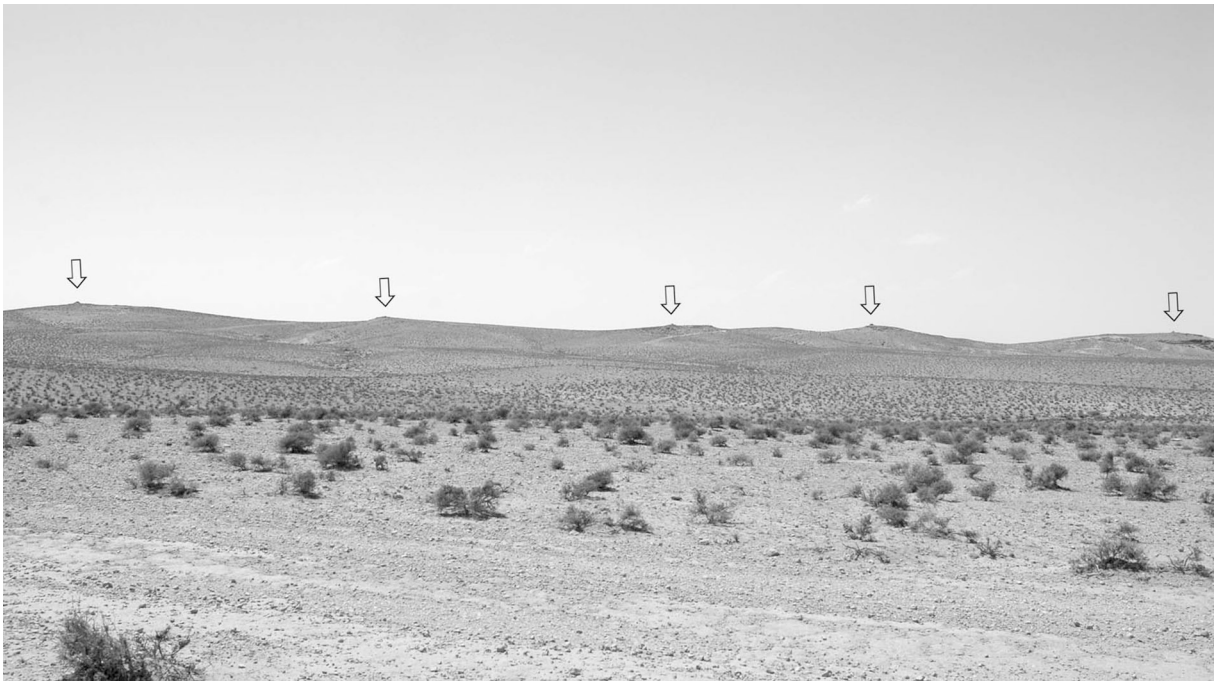


Photo 13 Rijum Hayuz: General View

Photo 14 Abu Hamad: General View

تقرير موسم العمل الثاني للبحث الأثري لمنطقة جبل البشري:

بدأ موسم العمل الثاني للبحث الأثرى السوري الياباني المشترك لموقع البشري في السادس من أيار 2007 ، و انتهى في 30 أيار 2007 .

ونشكر الدكتور بسام جاموس المدير العام للآثار و المتاحف ، و الدكتور ميشيل مقدسي مدير التنقيب و البحث في المديرية العامة للآثار و المتاحف و المشرف المستشار لهذا البحث المشترك ما قدموه لإنجاح هذا الموسم الثاني من العمل

الجانب السوري :انس الخابور (مديرا) أيهم آل فخري -محمود الحسن

الجانب الياباني: كاتسوهيكو اونوما (مديرا) – هيروتوشي نوموتو- توموياسو كيوتشي- اتسونوري هاسيكاوا – تشي اكاشي – سوميو فوجي – سايكو مياشيتا- تاكورو اداتشي – كاي سوزوكي- لبنى عمر- كينيتشي تانو.

في موسم العمل هذا باشرنا العمل بنوعين من البحث :

الأول : وضع خارطة شاملة لموقع غانم العلي

الثاني : مسح الرجوم في المنطقة الممتدة بين مدينة الرقة و الحافة الشمالية لجبل البشري .

1 – وضع خريطة شاملة لموقع تل غانم العلي:

يقع تل غانم العلي شمال طريق الرقة دير الزور ب /500/ م جانب قرية غانم العلي على الضفة الغربية لنهر الفرات على ارتفاع /10/ أمتار عن مستوى النهر ، أبعاد الموقع حوالي 400 م شرق غرب ، و 300 شمال جنوب و تشير نقطة العلام التي وضعت على قمة التل الى ارتفاع 238.958 متر عن سطح البحر

توضعت العديد من القبور التي تعود لسكان القرية المجاورة على قمة التل ، والعديد من الغرف الأثرية أنشئت من الصخور المحلية الموجودة بالموقع.

بالعودة الى الكسر الخزفية التي جمعت خلال موسم البحث الأثرى السوري الياباني الأول ، الذي حصل من شباط الى آذار 2007 ، يمكن تأريخ الموقع في فترة البرونز المبكر على الأغلب

هناك عدد كبير من المواقع على ضفة نهر الفرات بالقرب من مدينة الرقة ،التي يمكن ان تؤرخ على فترة البرونز المبكر مثل تل البيعة و تل ثديين بالإضافة الى تل غانم العلي و تل حمادين .

و يهدف العمل الأثرى للبعثة السورية اليابانية المشتركة الى توضيح ان مجتمعات دول المدن زراعية الأساس في منطقة الفرات الأوسط حول مدينة الرقة ،ولأجل تحقيق هذه الغاية ، لا غنى عن استكمال البحث بالطرق التالية :

1- التنقيب في تل غانم العلي و تل حمادين الواقعان على ضفة الفرات
2- الأسبار في المواقع القريبة من الحافة الشمالية من سهل الفرات بين ضفة الفرات و جبل البشري
3- مسوحات تتضمن اسبار تأكيدية لتأريخ مواقع الرجوم في سهل الفرات لتقصي حركة القبائل البدوية المذكورة في النصوص الأثرية.

بالتواصل مع طرق البحث المحققة أعلاه، هناك موقعين لابد من إغناء البحث الأثرى السوري الياباني المشترك بهما،أحدهما موقع مقابر أبو حمد المؤرخة على فترة البرونز المبكر بشكل أساسي ، الذي يقع على بعد 800 متر شرق طريق غانم العلي/ جبل البشري ، على بعد 3 كم من طريق دير الزور الرقة.
هناك أيضا سلسة من القبور التي محتمل تعود لعصر البرونز المبكر ، المقامة قرب قلعة جزلة ، جنوب شرق غانم العلي 2 كم ، على طول الجرف بين ضفة الفرات و سهل الفرات.
في موسم العمل هذا أتممنا إنجاز خريطة شاملة لموقع تل غانم العلي في 25 من أيار ،و نحن متأكدين تماما ان الأعمال التنقيبية في موقع غانم العلي و تل حمادين ، إجمالا مع المسوحات للمنطقة المحيطة ستقدم مقدار ضخم من التوضيح للمظاهر التاريخية الغامضة في عصر البرونز المبكر في منطقة الفرات الأوسط.

2- مسح رجوم الدفن ما قبل الإسلامية :

كخلاصة عامة للمسح الذي تم في أيار اعتبارا من 22 الى 29 في رجوم الدفن ما قبل الإسلامية (أو المقابر الحجرية المتكومة) ، و التي توازت مع الأعمال الرئيسية للبعثة في تل غانم العلي،المسح يشكل جزء من العمل الرئيسي الذي يترأسه انس الخابور من الجانب السوري والبروفيسور أو نوما من الجانب الياباني ،و الذي يسعى لاكتشاف العلاقة الاجتماعية الاقتصادية بين المجتمعات الرعوية في السفح الشمالي لجبل البشري و المجتمعات الزراعية على طول حوض الفرات الأوسط .
السبب في التركيز على تلك الرجوم هو رحيلهم المتكرر و نمط الحياة البسيط لديهم ، عموما رعاة ما قبل التاريخ لم يتركوا شواهد أثرية واضحة ما عدا القبور، التي نركز على دراستها و هي هدفنا الأول ،ونلاحق تطور مجتمعاتهم من خلالها.

المسح :

مراعاة لضيق الوقت و أننا لإنزال في تجربة مع المنطقة ، لذلك انتهجنا منهجا بسيط ، في البداية بحثنا في عشرات الأماكن المسماة (الرجوم) في الخرائط السورية مقياس 50.000/1 و كنتيجة أثبتت أن اغلب و ليس كل الأماكن الموجودة في النصف الثاني من منطقة المسح كانت نقاط علام أو نقاط مساحية ، بنيت في الوقت الحاضر ، أي لا يوجد دلائل واضحة على رجوم الدفن في تلك المنطقة .
النصف الاول من منطقة المسح تركز في السفح الشمالي لجبل البشري ،حيث توضعت رجوم دفن عديدة ربما يمكن ان تؤرخ على الفترة ما قبل الإسلامية ، أربعة منها تمكنا من تمييزها و هي : رجوم هداج 1 ، BS-0701 ،رجوم هداج 2 BS0702 ، رجوم حيوز BS0703 ، و رجم احمر BS0704.

نتائج المسح :

1- تتوزع رجوم الدفن كمخطط عام بشكل اهليلجي في السفح الشمالي لجبل البشري، بقطر 5-15 متر و ارتفاع 0.5 – 2 م .، مبنية بحجارة كلسية طبيعية أبعادها 20-50 سم مكومة عشوائيا .

2- على الرغم من كونها تشبه كومة بسيطة فان البعض منها يشكل دائرة في حافتها(الصورة 9) و غرف اهليلجية في مركزها (الصورة 10) تشير أنها رجوم دفن اكثر من كونها نقاط علام بسيطة .
3- غالبا ما تشكل مستطيلا و جدار مرافق لها، مشكلة مجموعة بنائية صغيرة(الصورة 11) مما يدل على ما اعتبرناه رجوما
4- و لعدم وجود الدلائل لا يمكن التأريخ بدقة ، على أية حال يبدو ان الشرائح المدهونة بالأحمر(الصورة 12) عموما يوجد ما يشابهها من مقابر في الجولان و جنوب الأردن اعتبر تاريخه برونز مبكر ، إذا ربما تكون مقابر امورية من القبائل القادمة من جبل البشري التي ذكرتها النصوص السومرية والأكادية.
5- هذا النمط من الرجوم يتركز في السفح الشمالي من جبل البشري و لا نماذج مشابهة في السهل الشمالي من حوض الفرات ، و على ضوء الدلائل الأثرية من موقع أبو حمد المقبرة الكبيرة خلف موقع غانم العلي تظهر أن المقابر العلوية المدخل كانت النمط السائد في تلك المناطق .
6- لذا فالرجوم الدفن تلك تعود لقبائل الرعاة ، و المدافن العلوية المدخل تعود للمزارعين ،و يؤكد ذلك الغياب الكامل للمستوطنات في سفح البشري.
7- الاختلاف بين النوعين من المقابر لا يحدده التوزع و الشكل ، فرجوم البشري موجهة للشمال جنوب ، و مقابر أبو حمد عموما موجهة شرق غرب ، بالإضافة إلى نمط مقابر المزارعين تتوزع على طول هضبة مطلة على وادي كبير محتفظة بمسافة أكثر من 50-100 متر بين كل رجمين بينما المقابر الزراعية تشغل السهل و تتقارب مع بعضها هذا الاختلاف يدل بوضوح أيضا على الاختلاف الثقافي لكلا الموقعين .
8- كلا الدراستين لرجوم البشري و مقابر أبو حمد مثلا يمكن أن تقدم توضيحا للاختلاف الاجتماعي الأساسي للمجتمعات المبكرة في حوض الفرات الأوسط .

نتائج :

بسبب قلة الوقت لم يكن البحث شاملا ولم يتم العثور على عدة مواقع في منطقة البشري ، التي لوقت طويل اعتبرت ارض صيادين فارغة للمجتمعات المبكرة في حوض الفرات ، وجود احتمال رجوم دفن معاصرة في السفح الشمالي لجبل البشري يمكن ان يدل على اعتبار الرأي التقليدي ذلك.

ما يهمنا اكثر هو الاختلاف الكبير بين رجوم البشري و مقابر أبو حمد ، هذا يهمنا لان الأخرى من الممكن ان تكون مقبرة لغانم العلي ، موقعنا الأساسي ، لذا فالبحث الأبعد سيوضح بعدا آخر لعصر البرونز المبكر في هذه المنطقة و ومعنى ذلك يقدم فهم اشمل للمجتمعات الحضارية المبكرة في حوض الفرات الأوسط.

سوميو فوجي
مدير الجانب الياباني
كاتسوهيكو اونوما
مدير الجانب السوري
أنس الخابور

ARCHAEOLOGICAL RESEARCH IN THE BISHRI REGION — REPORT OF THE THIRD WORKING SEASON —

Katsuhiko OHNUMA*
Anas Al-KHABOUR**
(30/August/2007)

The third working season of the Syria-Japan Archaeological Joint Research in the Bishri Region was started on August 1st, 2007 and was completed on August 29th, 2007.

The members of this joint research from the Syrian and Japanese missions are as follows.

Syrian mission: Anas Al-Khabour (Director), Ayham Al-Fahry and Mahmmod Al-Hassan.

Japanese mission: Katsuhiko Ohnuma (Director), Hirotoshi Numoto, Hiroyuki Sato, Masanobu Tachibana, Yoshihiro Nishiaki, Atsunori Hasegawa, Tomoyasu Kiuchi, Kenichi Tanno, Hitoshi Hasegawa, Tomoya Goto, Haider Urebi, Ryuichi Yoshitake, Lubna Omar, Chie Akashi, Mitsuo Hoshino, Naoko Fukami, Harumi Horioka, Shouko Ueda, Natsuko Fujikawa, Shu Takahama, Toshio Hayashi, Ryuji Matsubara and Toshiki Yagyu.

Dr. Bassam Jamous, Director General of the Syrian Directorate General of Antiquities and Musems and Dr. Michel Al-Maqdissi, Director of Archaeological Excavations and Research at the Syrian Directorate General of Antiquities and Musems and the Syrian Supervising Adviser for this joint research, kindly helped us towards the success of this third season of work, and we express our sincerest gratitudes to them for their warm-hearted cooperation.

In this working season, we started trench excavations in two squares (1 and 2) at the site of Tell Ghanem al-Ali. We also undertook several surveys (Fig. 1), the results of which are briefly described below.

1. Trench excavations at Tell Ghanem al-Ali

Katsuhiko Ohnuma (Professor,
Kokushikan University, Tokyo) and
Tomoyasu Kiuchi (Graduate School of
Humanities and Sociology, the University of Tokyo, Tokyo)

We started trench excavations in two squares at Tell Ghanem al-Ali (Fig. 2) on August 11th (Figs. 3 and 4), and completed the work on August 27th (Fig. 5).

The works in the two squares (Fig. 6) yielded stone-walled structures and structures walled with mud bricks, as well as pits, door sockets, pottery, hearth, *tannor*, gravel floor, etc (Figs. 7 to 24).

Although exact dates of these structures are now under study, it is strongly demonstrated that they date to the EB Ⅲ Period on the basis of features of the pottery unearthed from them.

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* Director of the Japanese Archaeological Mission to Bishri (Professor, Kokushikan University, Tokyo, JAPAN)
** Director of the Syrian Archaeological Mission to Bishri (Director, Department of Antiquities and Museums, Raqqa, SYRIA)

2. Geography and Geology of Tell Ghanem al-Ali

Mitsuo Hoshino (Professor, Graduate School of
Environmental Studies, Nagoya University, Nagoya)

1. Topography

Tell Ghanem al-Ali has an elliptical shape with the long-axis with c.400 m stretching into NNE-SSW direction (Fig. 25). The highest point of the Tell is 241.5 m above sea level, rising 12.5 m from the base level 229 m (Fig. 26). The upper part of the Tell is recently used as a cemetery for the local people. Access from the highway to the Tell by vehicle is possible through the farming road.

2. Natural Vegetation

Precipitation of the area is almost 0 mm and the temperature sometimes attains up to 40 degrees centigrade during the summer season. Even under these hyper-arid conditions, natural vegetation can be observed at the hillside of the Tell. Herbaceous plant communities are vegetated in places lower than 232 m level (Fig. 27-A). A group of tree, *tiliaceae* is conserved close to a branch of irrigation canal (Fig. 27-B). These indicate that the water supplied by the extensive irrigation system permeates up to the hillside of the Tell.

3. Geological Consideration

Figure 28 shows the geological outcrop found at the base-level of the Tell. At first, its stratified structure seemed to be a fluviatile sediments, but it was later identified to be sun-dried bricks of an ancient structure.

We made a correlation of the topographic level between the Tell and the Bishri Mountain-side using a surveying level. As shown in Fig. 29, the base-level of the Tell is correlated to the lower terrace-surface of the Bishri Mountainside. Detailed stratigraphic correlations and geological survey of the river-terraces in the area will be emphasized in the next field work in November, 2007.

3. Palaeolithic survey

Hiroyuki Sato (Professor, Graduate School of
Humanities and Sociology, the University of Tokyo, Tokyo)

A survey of Palaeolithic sites distribution was undertaken in the area between the city of Raqqa and the northern edge of the Mount Bishri. As the result of this survey, we confirmed that the site of *Barayt Tell Hammam*, where Mousterian lithic artifacts are distributed in a considerable amount, is on a Pleistocene river terrace of the Euphrates (Figs.1 and 30). We also confirmed that Mousterian lithic artifacts are distributed around the rock shelter called *Metbaa*, some 2 km east of *Barayt Tell Hammam*. We think that this rock shelter may have been visited and inhabited by people who made the Mousterian lithic artifacts (Fig. 31).

4. Prehistoric survey at the northern edge of Jebel Bishri, Raqqa

Yoshihiro Nishiaki (Professor, the University of Tokyo, Tokyo)

As part of the integrated archaeological research program led by Professor Katsuhiko Ohnuma for the Raqqa-Bishri region, a quick prehistoric survey was conducted along the northern edge of

Jebel Bishri. The main objective of this survey was to locate Neolithic sites as well as the ones of the adjacent period so that the importance of this arid region for understanding the origins of nomadic pastoralism is highlighted. Two areas were visited during the short period of survey (August 4 to 6): the *Wadi Aabeid* valley and the *Jebel Tbouq* area.

Wadi Aabeid is located approximately 15 to 30km to the south of Tell Hammadin, forming one of the major valleys at the northern edge of Jebel Bishri. It runs from the area of *Tall Aabeid* northwards with hilly banks on both sides. A few flint-scattered spots were noted within the *wadi* beds and along the banks, but no in-situ sites were identified in this season, most likely due to the short period of survey.

More promising results were obtained from the area around *Jebel Tbouq*. This east-west running mountain range is situated at the north-western edge of *Jebel Bishri*, roughly 60km south of Raqqa. In an area cut by *Wadi er-Rhoum*, a PPNB station with a distribution of Naviform cores and their products was discovered on its left bank (Figs. 32 and 33). In addition, a series of huge flint workshops were encountered further deep in the mountain along the wadi. The workshops, clearly located on the outcrops of high quality flint, extend to the south and the east in the basin. They seem to continue intermittently to the *Tar al-Sbai* area that was investigated by the Finnish mission, and the *El Kowm* basin intensively studied by the Syro-French missions.

The surface sampling indicates that the workshops in the basin were derived from the Palaeolithic and Neolithic periods. The Palaeolithic artifacts were best represented by well-made Levallois cores and flakes of the Middle Palaeolithic. All the stages of the core reduction process took place in the workshops. On the other hand, the identified Neolithic pieces were PPNB core-preforms and their preparation by-products only. The workshops were obviously utilized for the initial stage of core preparation during the Neolithic period, and further reduction must have been made at other spots.

As a matter of fact, such spots were located a few hundred meters to the north along the southern cliff of the mountain, where completely reduced PPNB Naviform cores and blades from them were distributed.

Careful investigation of these different types of sites is to provide us with insight into behavioral patterns of the PPNB communities, who probably haunted in this area to cross *Jebel Bishri* towards north and south as well as to procure flint raw material. The complete absence of farming tools such as sickle elements and ground stones in the flint samples suggests that they were either pastoralists or groups dispatched from home villages located in more favorable environments.

5. Faunal analysis of the site of Tell Ghanem al-Ali

Lubna Omar (Graduate school, Kyoto University, Kyoto)

The analysis of the faunal remains retrieved through trench excavations shows that the current bone assemblage consists of approximately 860 specimens. More than half of the specimens belong to medium size mammals, sheep and goat in particular. At the same time, *Equid* remains are abundant in Square 1, as are cattle. The species less represented are gazelle, birds and rodents. Cut marks are observed on two fragments, and some of the bones are burnt. Two *Bos's* phalanges have gnawing traces made by canine.

6. Botanical research

Kenichi Tanno (Research Institute for
Humanity and Nature, Kyoto) and Chie Akashi
(Graduate school of Literature and Art, Waseda University, Tokyo)

Botanical remains from archaeological sites often give us solid answer against our questions of the subsistence such as what food ancient man ate and how was the vegetation around the site? To clarify these issues as for plant utilization in Tell Ghanam-alli, we collected charred plant remains using a water-floatation system (Fig. 34). The soils taken in the present year are most presumably belonging to the Early Bronze Age: the period of flourishing the early agriculture and beginning of irrigation farming.

So far 6 samples of about 55 litters of soil (Table 1) were processed, and water-floatation using 1mm-mesh sieve yielded rich charcoal remains as well as seed remains in less quantity. They need further investigation with microscope for identification, so we represent a preliminary data ovserved in the field by naked eyes only.

Some large cereal grains are visible, at least barley (*Hordeum vulgare*) seeds and a few emmer/einkorn wheat seeds. One of Graminosae weeds, *Lolium* sp. was included as well. Some large seeded legumes were also seen, probably faba beans (*Vicia faba*).

Barley is quite common among the other Bronze Age sites in this area, and thought to be staple crop. Some of the barley were found in spikelet. Some pulses are extremely well-preserved, and seed coat, so fragile and usually lost during charred, was observed still attached to seeds. From charcoal fragments, some were collected large enough for identification. Most of the other seeds and fruit remains are not identifiable without microscope, so they will be sent to Japan for the further analysis.

We found that the ashy soil sampled during the trench excavations includes rich plant remains, though only restricted area was investigated. This ashy layers cover large part of the sounding area, so we consider that more systematic and detailed sampling is necessary.

Consideration of the distribution of plants will make clarify the use of the houses, rooms or other contexts.

Botanical data of the historical era is still scarce, and the diet and the vegetation has been discussed on the bases of the literatures only so far. Collaboration of archaeological and histological studies, therefore, is greatly needed.

7. Tells distribution survey using satellite photos

Hitoshi Hasegawa (Professor, Department
of Literature, Kokushikan University, Tokyo) and
Tomoya Goto (Graduate School of Human Sciences,
Kokushikan University, Tokyo)

From 12th to 16th of August of 2007, we undertook tells distribution survey along the River Euphrates around the city of Raqqa by means of Russian-made maps, correlating the legends on the maps (cemetery) with archaeological sites. The area which our survey covered was Spot Image Full Scene (72km × 60km) including the Middle Euphrates and the Mount Bishri.

Of the 21 cemeteries we surveyed along both banks of the Euphrates, 12 were identified to be archaeological sites on the basis of presence or absence of potsherd (Fig. 35).

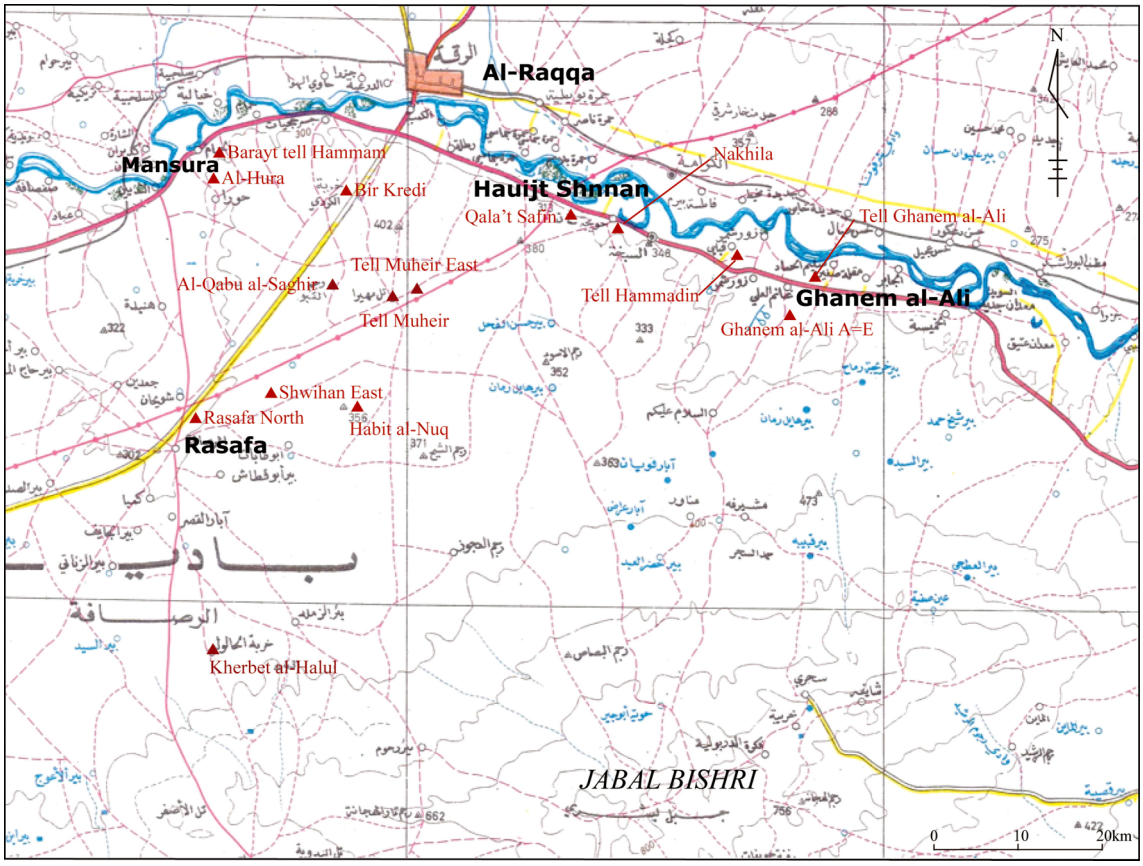


Fig. 1 Location of archaeological sites around the city of Raqqa including Tell Ghanem al-Ali where the Syria/Japan Joint Mission undertook trench excavations in this working season

Fig. 2 Tell Ghanem al-Ali seen from south-east.

Fig. 3 Ceremony to start trench excavations at Tell Ghanem al-Ali (Ohnuma: left, Al-Khabour: right).

Fig. 4 Memory photo on the start of trench excavations at Tell Ghanem al-Ali.

Fig. 5 Memory photo on the completion of trench excavations at Tell Ghanem al-Ali.

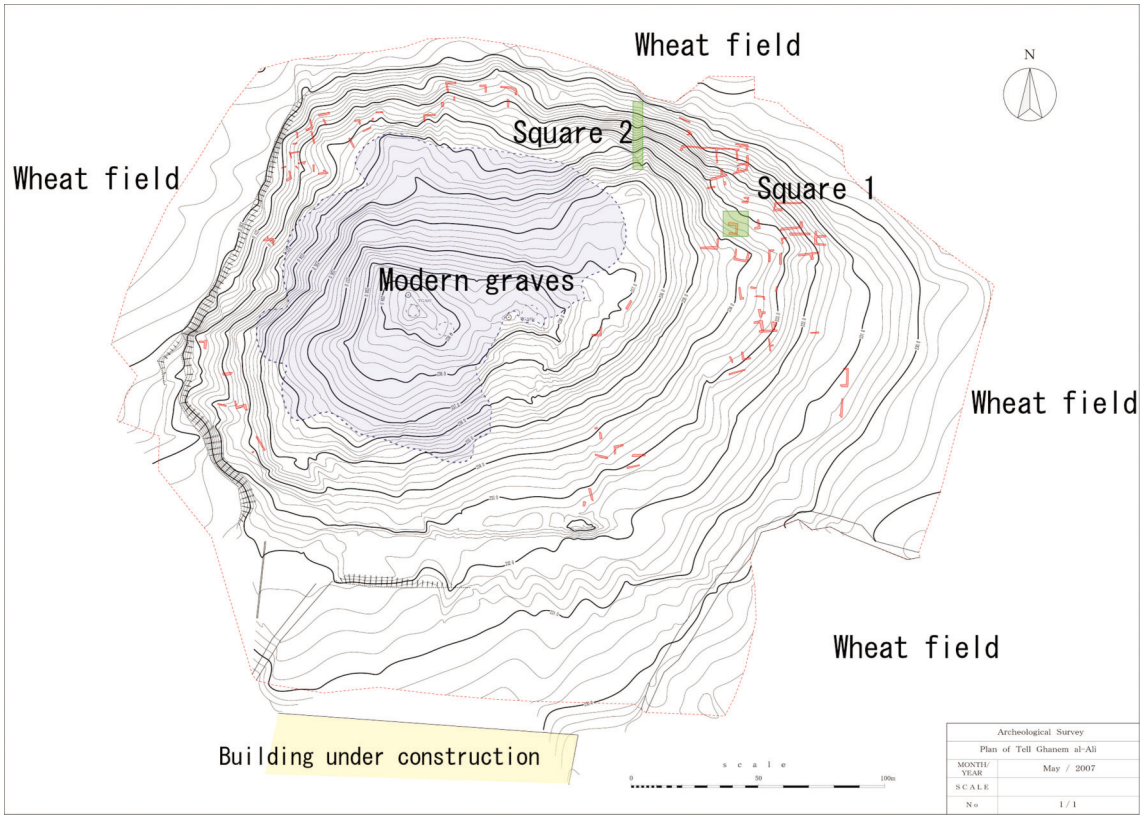


Fig. 6 Squares 1 and 2 (shaded green) for trench excavations.

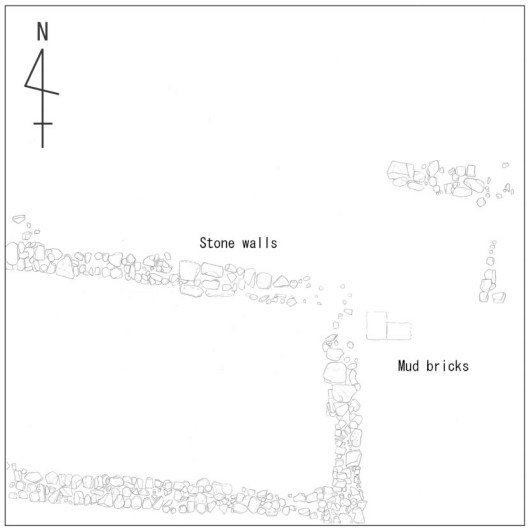


Fig. 7 Plan of Level 1 in Square 1.

Fig. 8 Stone walls of Level 1, Square 1.

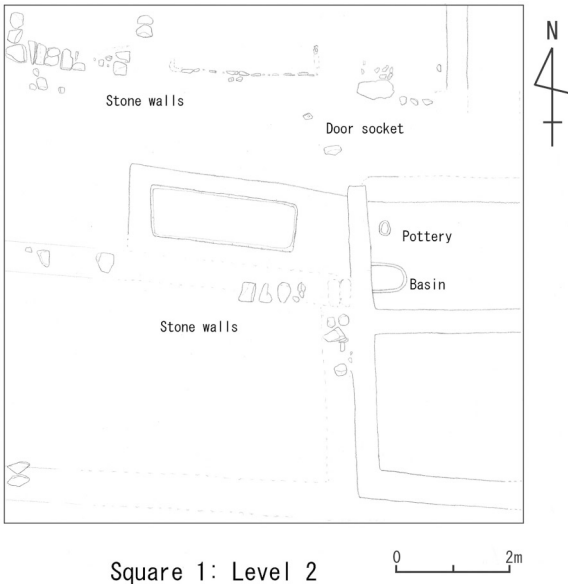


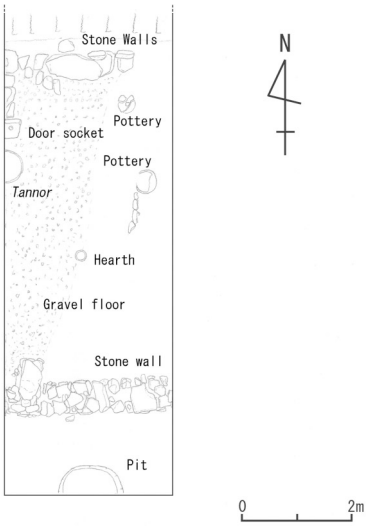
Fig. 9 Plan of Level 2, Square 1.

Fig. 10 Mud-brick walls of Level 2, Square 1.

Fig. 11 Pit before digging: Level 2, Square 1.

Fig. 12 Basin and pottery of Level 2, Square 1.

Fig. 13 Door socket of Level 2, Square 1.



Square 2: Level 1

Fig. 14 Plan of Level 1, Square 2.

Fig. 15 Stone wall of Level 1, Square 2 (seen from east).

Fig. 16 Stone wall of Level 1, Square 2 (seen from north).

Fig. 17 Pottery concentration in Level 1, Square 2.

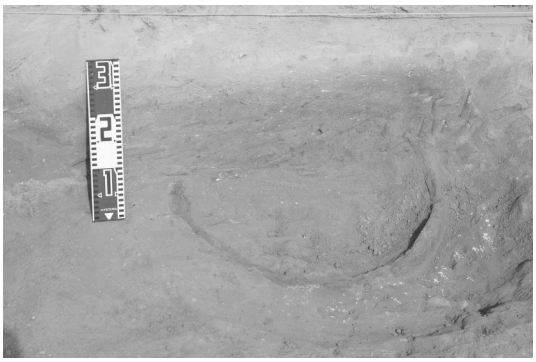


Fig. 18 *Tannor* in Level 1, Square 2.

Fig. 19 Gravel floor in Level 1, Square 2.

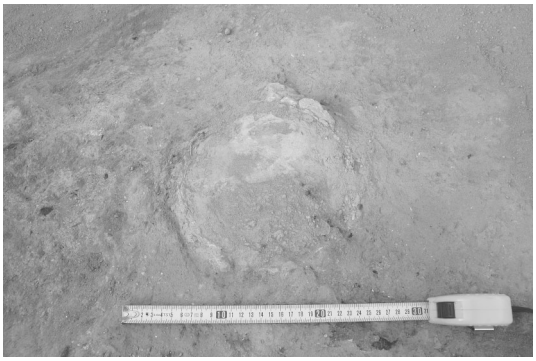
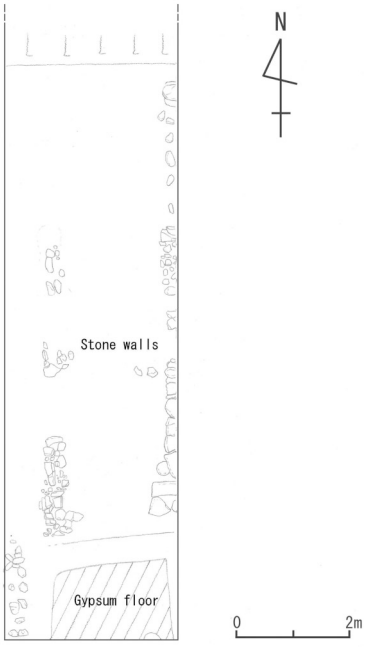


Fig. 20 Hearth in Level 1, Square 2.

Fig. 21 Pit in Level 1, Square 2.



Square 2: Level 2

Fig. 22 Plan of Level 2 in Square 2.

Fig. 23 Stone walls in Level 2, Square 2 (seen from north).

Fig. 24 Stone wall in Level 2, Square 2 (seen from south).

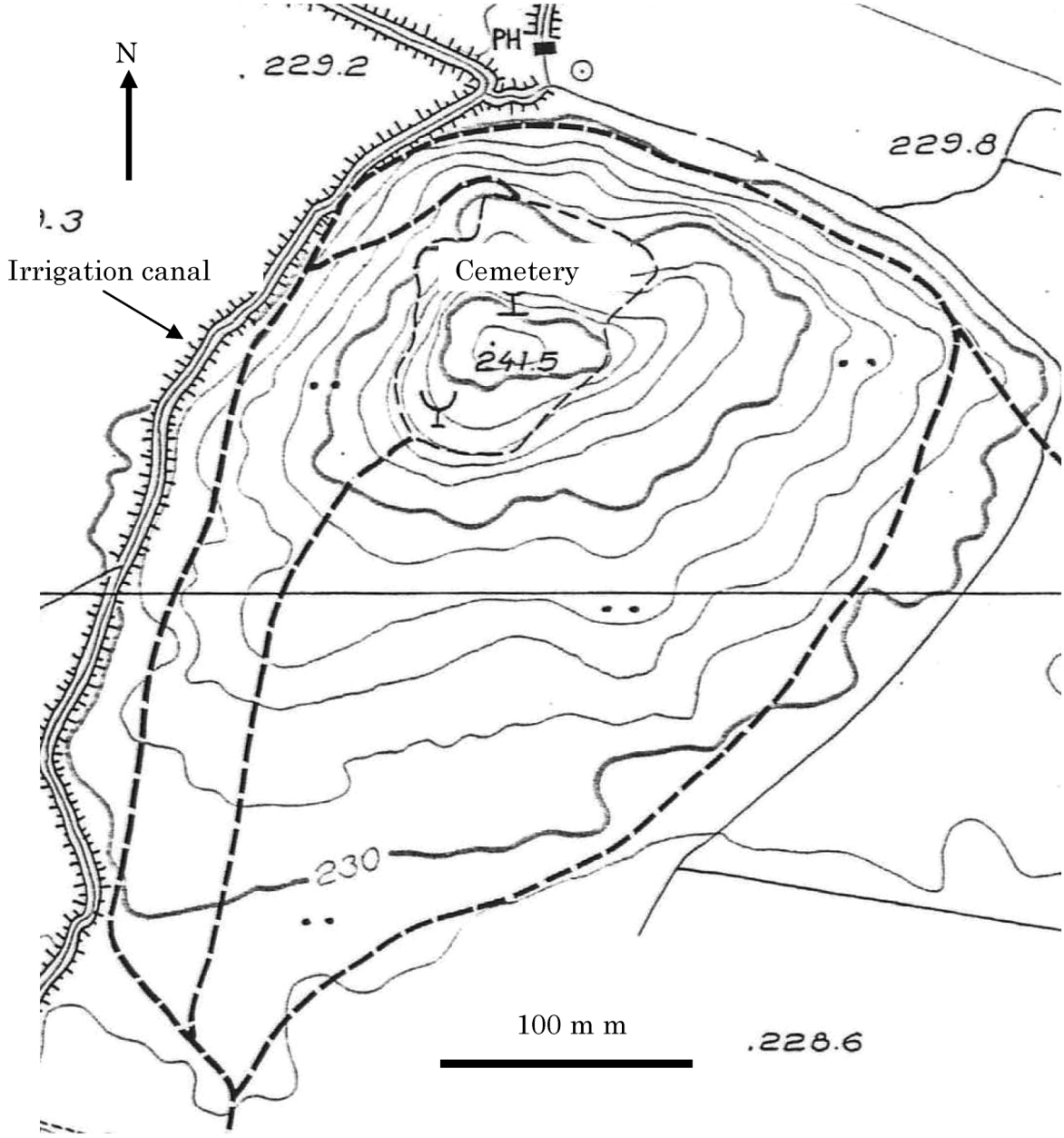


Fig. 25 Topographic map of Tell Ghanem al-Ali reproduced from 1:5,000 topographic sheet U 1143 (1961/62 by Italian Mission).

Fig. 26 A panoramic photograph of Tell Ghanem al-Ali and its base level, viewed from NW direction. Two steps of terrace at the near side are artificially modified fields for irrigation farming, in which cucurbitaceous fruits and sugar canes are cultivated.

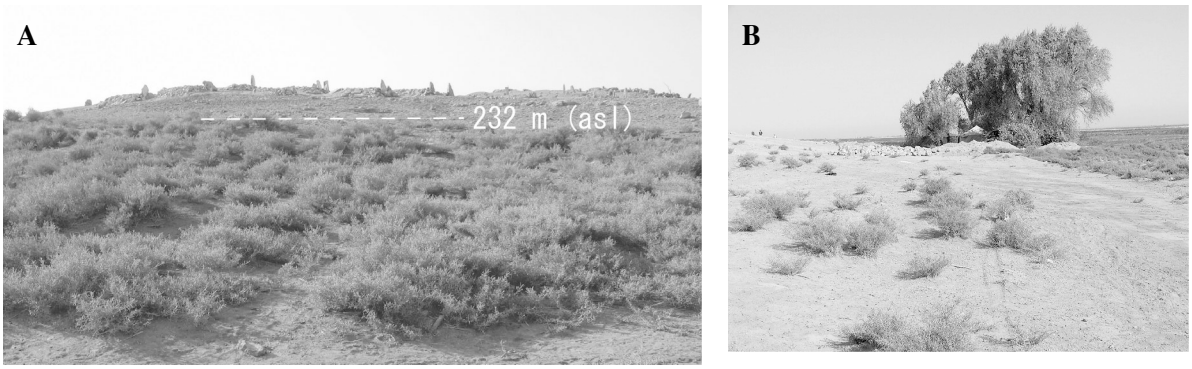


Fig. 27 Natural vegetation observed at the hillside of the Tell.
A: herbaceous plant, B: *tiliaceae*.

Fig. 28 An outcrop at the base-level of the Tell.

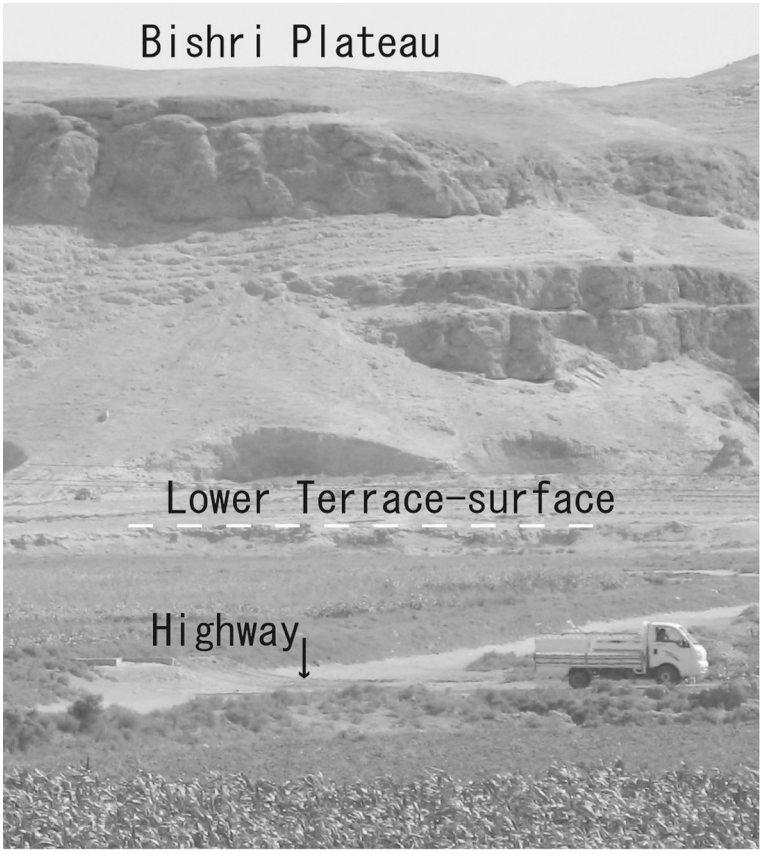


Fig. 29 Correlation between the base-level of the Tell and the lower terrace-surface of the Bishri Mountain-side.

Fig. 30 The site of *Barayt Tell Hammam* where Mousterian lithic Artifacts are distributed.

Fig. 31 Rock shelter called *Metbaa*: Mousterian lithic artifacts are distributed in its front.

Fig. 32 The PPNB flint scatter of Wadi er-Rhoum, Loc. 1, as seen from the east.

Fig. 33 PPNB flint implements from Wadi er-Rhoum, Loc. 1.

Fig. 34 Flotation system.

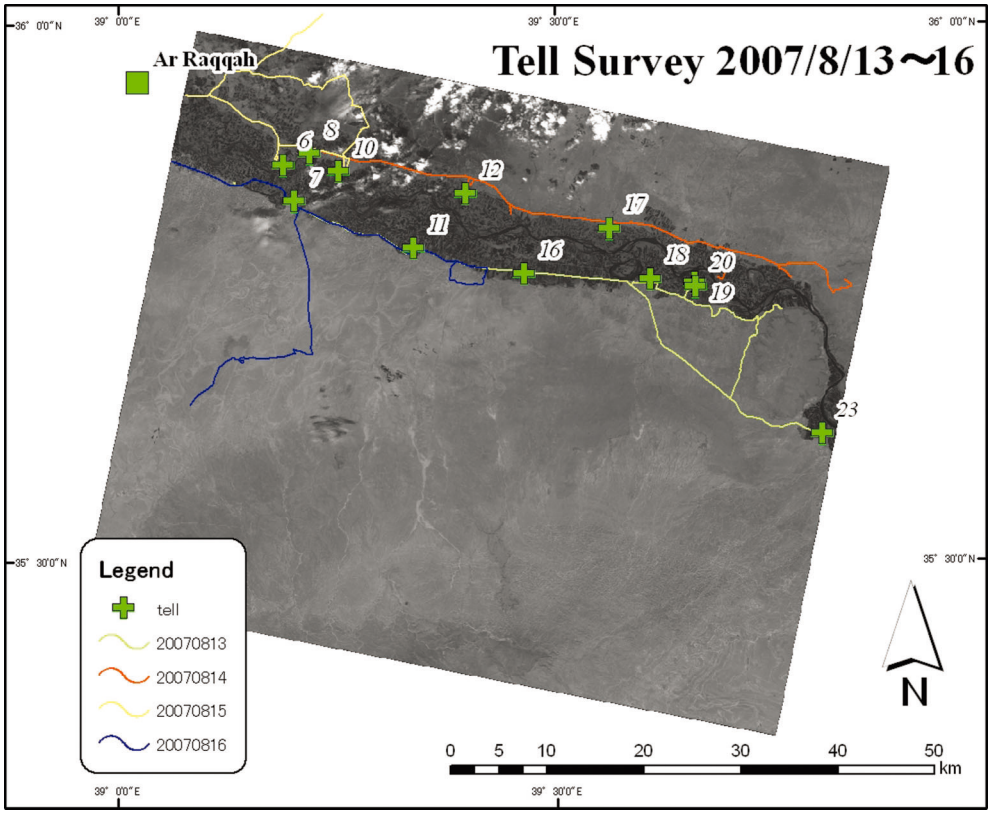


Fig. 35 12 cemeteries identified to be archaeological sites.

Table 1 Flotaion List of Tell Ghanem al-Ali.

Square	Basket No.	Date of sampling	Context	Soil amont
1	15	Aug.21/2007	Ashy layer	13 litre
1	18-01	Aug.21/2007	Unknown	7 litre
1	20	Aug.22/2007	Under stone wall	12.5 litre
1	20'	Aug.22/2007	Under stone wall	4.1 litre
1	20-01	Aug.23/2007	Pit	9.5 litre
1	20-02	Aug.23/2007	Pit	8.8 litre

تقرير العمل النهائي لموسم العمل الثالث للبعثة الأثرية السورية اليابانية المشتركة في البشري :

بدأ موسم العمل الثالث للبعثة الأثرية السورية اليابانية المشتركة في البشري في /1/ آب و انتهى /29/ آب لعام 2007

الجانب السوري كان يديره انس الخابور أما الجانب الياباني فكان كاتسوهيكو اونوما مديرا، و نعبر عن خالص امتناننا للدكتور بسام جاموس المدير العام للآثار و المتاحف في سورية و الدكتور ميشيل مقدسي مدير البحث و التنقيب الأثري في المديرية العامة للآثار و المتاحف و المستشار المشرف لهذا البحث المشترك لتعاونهم للنجاح بموسمنا الثالث.

بدأنا موسمنا هذا بأسبار تركزت في مربعين هما /1/ و /2/ في موقع غانم العلي .

أيضا قمنا بمسوحات متعددة سنقوم بتوضيح نتائجها :

1- أسبار موقع غانم العلي :

(كاتسوهيكو اونوما الأستاذ في جامعة كوكوشيكان ،طوكيو و توموياسو كيوتشي خريج كلية العلوم الإنسانية و الاجتماعية من جامعة طوكيو)

بدأنا الأسبار في مربعين في موقع غانم العلي بتاريخ 11آب الى 27 من شهر آب العمل في المربعين كشف عن تراكيب جدران حجرية مصنعة و تراكيب جدران من الطابوق الطيني ، بالإضافة الى حفر ، مقبسا أبواب ، فخار ،موقد (تنور) ارض من الحصى ، الخ...

على الرغم من انه لا يوجد تاريخ دقيق لهذه التراكيب كونها قيد الدراسة ، لكنها تؤرخ على فترة البرونز المبكر2 ، حسب دلالة ميزات الفخار الذي كشف عنه منها.

2- جغرافية و جيولوجيا تل غانم العلي :

ميتسو هوشينو (أستاذ خريج كلية الدراسات البيئية ، جامعة ناغويا ، ناغويا)

1.2 : الطوبوغرافيا:

يأخذ تل غانم العلي شكلا اهليلجيا و محوره الطويل حوالي /400/ م يضيق في الشمال الشمال الشرقي - الجنوب الجنوب الغربي، النقطة الأعلى من تل غانم العلي هي /241/ مترا فوق مستوى البحر ، يرتفع 12.5 مترا عن القاعدة الأساسية 229م،الجزء الأعلى من التل يستخدم حاليا كمقبرة للأهالي ،يمكن الدخول من الطريق السريع بين الرقة و دير الزور الى غانم العلي بالسيارة من خلال الطريق الزراعي .

2.2 : النباتات الطبيعية:

مطر هذه المنطقة هو تقريبا /0/ مم و درجة الحرارة فوق /40/ درجة مئوية خلال فصل الصيف . حتى تحت هذه الظروف يمكن ملاحظة النباتات الطبيعية في جانب سفح التل .

النباتات العشبية مزروعة في أماكن اخفض من 232 م عن سطح البحر، و ثمة نوع من الأشجار محفوظ بالقرب من فرع من قناة ري هذا يدل على ان الماء يزود به عن طريق نظام الري الشامل الذي يتخلل فوق الى سفح التل.

3.2 : الاعتبار الجيولوجي:

يوجد تفطر جيولوجي في القاعدة الرئيسية من التل ،اعتقدنا في البداية ،بسبب تكوينها المرتب انها رواسب نهرية ، لكنها فيما بعد عرفت أنها طابوق مجفف بالشمس من بناء قديم،قمنا بعملية ربط في المستوي الطبوغرافي بين التل و جانب جبل البشري باستخدام مستوى المسح فوجدنا ان المستوى الرئيسي من التل يرتبط بالسطح الأسفل من سفح جبل البشري .

مسح مواقع العصر الحجري الأول:

هيرويوكي ساتو(أستاذ ، خريج كلية العلوم الإنسانية والاجتماعية ، جامعة طوكيو ، طوكيو)

تركز مسح مواقع العصر الحجري الموزعة في المنطقة بين مدينة الرقة و الحافة الشمالية لجبل البشري، و كنتيجة لهذا المسح ، تأكدنا من موقع برية تل حمام ،حيث توزعت الأدوات الحجرية الموستيرية بكمية كبيرة في الشرفة البليستوسينية من الفرات.

أيضا أكدنا على الأدوات الحجرية الموستيرية الموزعة حول الملجأ الحجري المسمى ميتبا ، على بعد /2/ كم شرقي برية تل حمام ، و نعتقد بان ذلك الملجأ الحجري قد زاره و سكنه الناس الذين صنعوا الأدوات الحجرية الموستيرية اليدوية

3- مسح فترة عصور ما قبل التاريخ في الحافة الشمالية لجبل البشري بالرقة:

يوشيهيرو نيشاكي (أستاذ في جامعة طوكيو)

قمنا بمسح سريع مواقع عصور ما قبل التاريخ على طول الحافة الشمالية لجبل البشري، لتحديد مواقع نيوليتية في هذه المنطقة القاحلة لفهم أصول القبائل الرعوية ، في كل من وادي عبيد و منطقة جبل طبوق.

يقع وادي عبيد حوالي 15-30 كم الى الجنوب من تل حمادين ، مشكلا واحدا من الأودية الكبيرة في الحافة الشمالية لجبل البشري ، و يجري من منطقة تل عبيد باتجاه الشمال بحواف مرتفعة على كلا الجانبين ،لوحظت بضعة بقع صوانية في سريري الوادي و على طول جوانبه .

جبل طبوق المتجه باتجاه شرق غرب في الحافة الشمالية الغربية لجبل البشري بحوالي /60/ كم جنوب الرقة،في منطقة يقطعها وادي رحوم ،وهو محطة تعود لفترة PPNB فيها نصال و نوى متناثرة على الضفة اليسرى ، بالإضافة الى سلسلة من ورشات العمل الضخمة التي وجدت بالعمق باتجاه الجبل .

في النهاية الغربية لحوض جبل سباعي ، كانت ورشات العمل هذه ممتدة نحو جنوب و شرق الحوض ، حيث تبدو مستمرة بشكل متقطع الى منطقة طار سباعي التي بحثت فيها البعثة الفلندية عام 2000 ، لكن البعثة الفلندية أشارت الى ورشات عمل في جرف الجبل فقط.

تشير العينات السطحية الى ان ورشات العمل في الحوض كانت تعود للفترات الباليوليتية و النيوليتية ، الصناعات الباليوليتية كانت ممثلة بشكل جيد بنوى لفلوازية مصنعة جيدا و رقائق من الباليوليت الأوسط.

كانت تتم مراحل إنقاص النوى في ورشات العمل تلك ،أيضا القطع النيوليتية المعروفة كانت من فترة PPNB نوى مشكلة و تحضيرها كان نواتج عرضية فقط .

كان من الواضح ان ورشات العمل تلك استخدمت لمراحل أولية لتحضير النوى خلال فترة النيوليت ، و استكمال الصنع يجب ان يكون في مواقع أخرى .

في واقع الأمر مثل هذه النقاط كانت متوضعة في على بعد عدة مئات من الأمتار الى الشمال على طول الجرف الجنوبي من الجبل ، حيث أنتجت بشكل كامل نوى و أنصال فترة ال PPNB .
البحث المتأني لهذه المواقع المختلفة هو لتزودينا بالأنماط السلوكية لجاليات فترة ال PPNB ،الذين طوردوا ربما الى هذه المنطقة ليعبروا جبل البشري باتجاه الشمال و الجنوب ، بالإضافة الى تحصيل مادة الصوان الخام.
الغياب الكامل لأدوات الزراعة مثل المناجل و الحجارة الأرضية في عينات الصوان تطرح فكرة إما انهم كانوا رعاة ، أو مجموعات مرسلة من المزارع الأم المتوضعة في البيئات المناسبة.

4- التحليل الحيواني موقع غانم العلى:

لبنى عمر (خريجة جامعة طوكيو)

تحليل البقايا الحيوانية التي حصلنا عيها من السبر أظهرت /860/ نموذج تقريبا اكثر من نصف تلك النماذج تعود الى الحجم المتوسط من الثدييات ، بشكل خاص الخراف و العنز،النماذج الأقل تمثيلا كانت الغزلان ، الطيور و القوارض .
آثار قطع لوحظت على قطعتين ، و بعض العظام كانت محروقة .و هناك اثرين صنعتا بواسطة الناب.

5- البحث النباتي:

كينيشي تاننو (معهد البحوث الانسانية و الطبيعية ، كويوتو) و تشي اكاشي (خريج كلية الآداب و الفن ، جامعة واسيدا ، طوكيو)

البقايا النباتية من المواقع الأثرية عادة تعطينا أجوبة عن أسئلتنا حول العيش مثل ماذا أكل الإنسان القديم و كيف كان الوسط النباتي حول الموقع .
جمعنا بقايا النباتات المتفحمة باستخدام نظام التعويم المائي ، التراب الذي جمعناه في الموسم الحالي من المفترض انه يعود لفترة البرونز المبكر، فترة ازدهار الزراعة المبكرة و بداية الري الزراعي .
بعض الحبوب الكبيرة كانت مرئية ، على الأقل بذور الشعير و الحنطة، و أحد أنواع الأعشاب الضارة كانت أيضا موجودة ، و بذور نباتات على شكل القرون ربما تكون الفاصولياء، كما ان الشعير كان شائعا تماما في مواقع عصر البرونز المبكر في المنطقة ، و يعتقد انه كان المحصول الرئيسي ، وبعض هذا الشعير وجد محفوظا بشكل جيد ، و كساء البذرة هش و فقد اغلبه أثناء عملية التفحم

6- مسح التلال الموزعة باستخدام الصور الجوية :

هيتوشي هاسيكاوا (أستاذ ، قسم الآداب ، جامعة كوكوشيكان ، طوكيو) و توموبا غوتو (خريج كلية العلوم الإنسانية ، جامعة كوكوشيكان ، طوكيو)

قمنا بمسح التلال المتوزعة على طول نهر الفرات حول مدينة الرقة باستخدام خرائط روسية الصنع ، من المقابر التي قمنا بمسحها على كلا الجانبين للفرات و التي بلغ عددها /21/ ، ميزنا/12/ منها أنها مواقع أثرية على ضوء القطع الخزفية .

مدير الجانب الياباني — **مدير الجانب السوري**
كاتسوهيكو اونوما — **انس الخابور**

ARCHAEOLOGICAL RESEARCH IN THE BISHRI REGION — REPORT OF THE FOURTH WORKING SEASON —

Katsuhiko OHNUMA*
Anas Al-KHABOUR**
(13/December/2007)

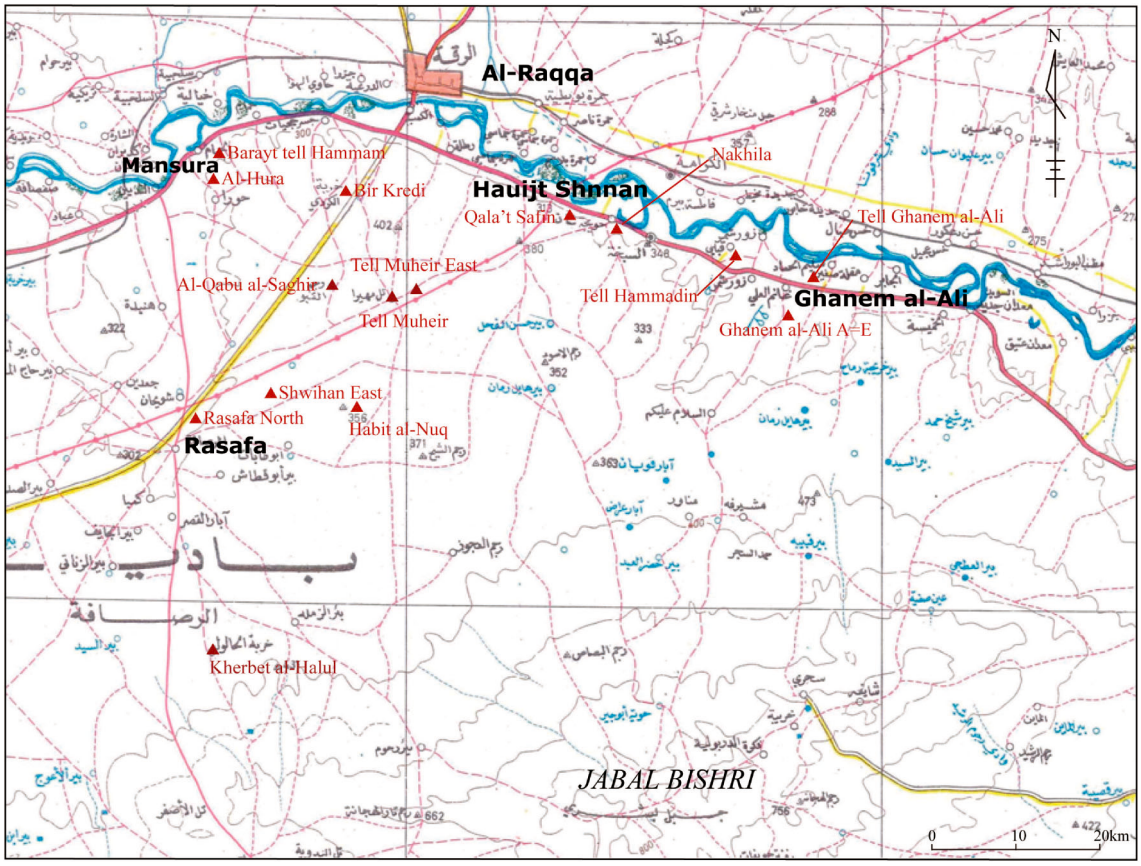
The fourth working season of the Syria-Japan Archaeological Joint Mission to the Bishri Region was started on the 8th of November of 2007, and was completed on the 12th of December, 2007.

The members of the joint mission from the Syrian and Japanese parties are as follows.

Syrian party: Anas Al-Khabour (Director), Ayham Al-Fahry, Mohamad Ali Jajan and Mohamad Ibrahim.

Japanese party: Katsuhiko Ohnuma (Director), Mitsuo Hoshino, Akira Tsuneki, Tomoyasu Kiuchi, Atsunori Hasegawa, Yo Negishi, Tsuyoshi Tanaka, Toshio Nakamura, Hidekazu Yoshida, Takeshi Saito, Kazuhiro Tsukada, Yusuke Katsurada and Ken-ichi Tanno.

We express our sincerest gratitudes to Dr. Bassam Jamous, the Director General of the Syrian



Map 1 Location of archaeological sites around the city of Raqqa including Tell Ghanem al-Ali where the Syria/Japan Joint Mission undertook trench excavations in this working season

* Director of the Japanese Archaeological Mission to Bishri (Kokushikan University, Tokyo, JAPAN)
** Director of the Syrian Archaeological Mission to Bishri (Director, Department of Antiquities and Museums, Raqqa, SYRIA)

Directorate General of Antiquities and Musems, and Dr. Michel Al-Maqdissi, the Syrian Supervising Adviser for this joint mission and the Director of Archaeological Excavations and Research at the Syrian Directorate General of Antiquities and Musems, who warm-heartedly cooperated with us towards the success of this fourth season of work.

In this working season, we continued the trench excavations in Squares 1 and 2 at the site of Tell Ghanem al-Ali, where we initiated excavational works in the third working season in August this year, and newly started trench excavations at Squares 3 to 5 to know the archaeological stratigraphy at the site in more details. Our geolo-geographical team undertook field survey in their research specilities, yielding fruitful results. The village of Ghanem al-Ali was researched in its history, the result of this research undoubtedly providing us with valuable information on the history of the site of Ghanem al-Ali itself. We also undertook a brief botano-archaeological research at the site of Ghanem al-Ali to tell what kinds of cereals the ancient inhabitants at Ghanem al-Ali lived on (Map 1).

The sections which follow are the preliminary results of the series of works we undertook in this working season.

1. Geological and Geographical Field Survey

Mitsuo Hoshino (Professor, Nagoya University),
Tsuyoshi Tanaka (Professor, Nagoya University),
Toshio Nakamura (Professor, Nagoya University),
Hidekazu Yoshida (Associate Professor, Nagoya University),
Takeshi Saito (Associate Professor, Meijo University),
Kazuhiro Tsukada (Assistant Professor, Nagoya University)
and Yusuke Katsurada (Research Fellow, Nagoya University)

In the forth working season in November 2007, our geological and environmental research team carried out various kinds of field survey in the Bishri Region. We would like to report here on the following four selected topics.

Prospect of the basement of Tell Ghanem al-Ali

We newly dug down 1×1 m area into 1.5 m depth at the western foot of Tell Ghanem al-Ali, in order to confirm the basement on which the Tell has been constructed. At least five stratigraphic layers were distinguished on the wall, as shown in Fig. 1, i.e. surface soil, sun-dried brick, well-stratified sand/silt, loose sand and silt from top to bottom. The well-stratified sand/silt layer is characterised by numerous white spots of gypsum aggregate. This layer also contains potsherds and charcoal fragments. From the loose sand layer, a flint core and charcoal fragments are found. Charcoal fragments are also found even in the lowermost silt layer.

As described above, charcoal fragments are commonly contained in the lower three layers, which suggests the inhabitancy evidence of them. The basement of the Tell may have been under the bottom of the dug pit of this time. Drilling is the effective method to prospect the basement level of Tell Ghanem al-Ali.

River-Terraces and Their Sediments

We recognized four or more river-terraces based on field observation and topographic map: 1st, 2nd, 2.5th, 3rd and 4th from lower to higher elevation (Fig. 2). These terraces are well developed from Zor Shammar to Wadi el Kharar area. Tell Hammadin and Tell Ghanem al-Ali are located on the 1st terrace. The sediments of these terraces are of fluvial and presumably Pleistocene in age.

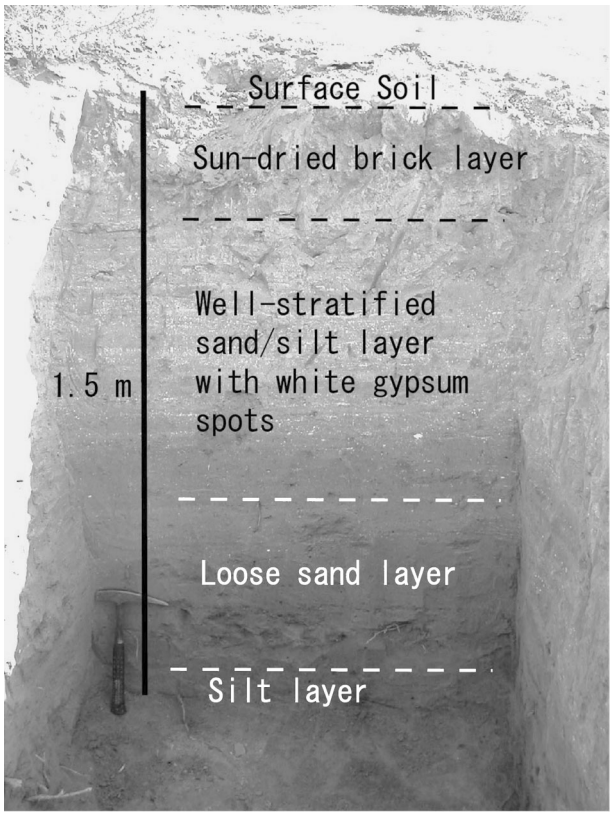


Fig. 1 Geologic profile in a newly dug prospecting pit at the western foot of Tell Ghanem al-Ali

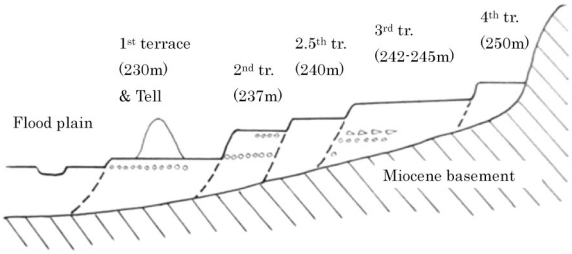


Fig. 2 Schematic diagram of river terraces of the study area

Fig. 3 Sediments of the 1st terrace

The height of the 1st terrace is ca. 230 m above sea level (a.s.l.), and 1-2 m higher than the flood plain composed of modern channels, crescent lakes, banks and marshes. We confirmed the sediments of the 1st terrace at two localities along the Euphrates River. They consist of sand, gravel and sandy mud (Fig. 3). Sand and sandy mud occasionally yield trace fossils of reed roots, indicating that the sediments and/or upper ones were deposited in reed marsh.

We found a charcoal-bearing layer (Fig. 4) in the 1st terrace sediments and collected some charcoal samples for ^{14}C dating. The age of the sediments is important to know the dawning period of the sites of Tells Hammadin and Ghanem al-Ali.

Crescent mounds, ca. 1 m height, can be recognized on the 1st terrace based on the 1:5,000 topographic maps (1961/62 by Italian Mission). The mounds are most likely banks and/or natural

Fig. 4 Charcoal-bearing layer in the 1st terrace sediments

Fig. 5 Asphalt in the 2nd terrace sediments

levees of palaeo-Euphrates River. Present small villages on the 1st terraces seem to be located on the crescent or long narrow mounds. Tells Hammadin and Ghanem al-Ali might have been constructed on the mounds.

The level of the 2nd terrace is ca. 237 m (a.s.l.), and 7 m higher than that of the 1st terraces. The sediments of the 2nd terraces are well outcropped along the highway, consisting mostly of gravel and sand. Gravel in the lower part is tightly cemented with carbonaceous matter. Large amounts of gypsum crystals are often found in the sandy sediments. The trace fossils of reed roots occasionally occur in the sandy sediments. Asphalt-containing stratum was found in gravel of the upper part (Fig. 5).

Fig. 6 Sediments of the 3rd terrace

The level of the 2.5th terrace is ca. 240 m (a.s.l.), and 3 m higher than that of 2nd terraces. This terrace is indistinctive, and may belong to the 2nd terrace. The sediments of the 2.5th terrace are composed of sand.

The level of the 3rd terraces is 242-245 m (a.s.l.), and 2-5 m higher than the 2.5th terrace. The sediments of the 3rd terraces are sand and gravel (Fig. 6). A gravel layer with sub-angular cobbles of gypsum is intercalated.

The 4th terraces are the highest and oldest in the study area. The level of them is ca. 250 m (a.s.l.), and 5-8 m higher than that of 3rd terraces. The sediments of these terraces have not been studied yet.

We distinguish four or more terraces, but some of them might be artificial planes. River-terraces and surrounding area are generally utilized by human, and have been changed their topography. In this area, the 1st terraces are used as cropland and small villages, and the 2nd and the higher terraces locating at the foot of the Bishri Plateau are used as towns.

It is important to clarify the stratigraphic disconformity between terrace deposits indicated by broken lines in Fig. 2. More detailed study is needed in and around the study area.

Sampling for ^{14}C Dating

(1) Tell Ghanem al-Ali Site

11th November: Square 1 (4 samples)

One charcoal sample was collected from the charcoal layer on the right side of the west wall. In addition, one sample was collected from the lowest visible charcoal layer and two samples were collected from the 2nd lowest charcoal layer, on the south wall of the Square 1 excavation area. These samples may provide the age of habitancy at this site.

(2) Samples from the Terraces of Euphrates

a) 10th November

Two charcoal layers were observed on the upper part (down to 50 cm from the surface) of the road-side terrace (2.5th terrace in Fig. 7). A charred wood of 5 cm diameter and 5 cm length was successfully collected from the centre of the upper charcoal layer. ^{14}C age of this sample may provide us the formation age or, at least, the age of the upper limit of the 2.5th terrace.

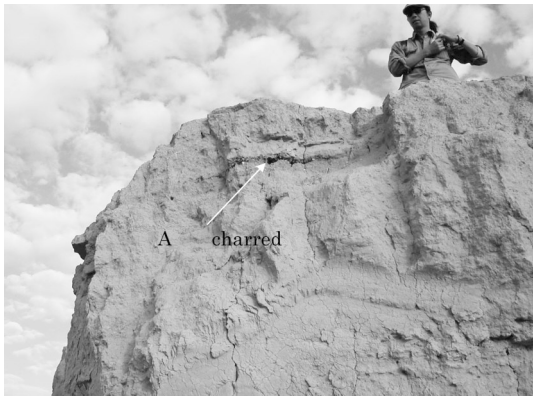


Fig. 7 The 2.5th terrace and a charred wood

b) 11th November

Two charcoal fragment samples were collected from one of the 5m-high terraces facing the Euphrates River (1st terrace in Fig. 4). About 3.5 m deep from the surface of the terrace, a layer, a bit more brown than other part of the wall, was observed. In the layer, small fragments of charcoal (≤ a few mm) were distributed 10 m wide of the terrace wall. One charcoal sample was collected as the gathering of charcoal fragments. Another charcoal sample was collected from the part 50 cm upper than the charcoal layer mentioned above. A charcoal fragment of 7-8 mm in diameter was dug out from the wall. These samples will provide us the formational age of the lowest terrace located nearest the Euphrates River.

Occurrence of 'Asphalt rock'

'Asphalt rock' is distributed almost likely as sedimentary strata in Tertiary sandy and/or tuffaceous sandstone (Fig. 8), located at 45 km south of the town of Ghanem Ali. The thickness is about a few to 10 meters and is distributed more than several km^2, as far as the field observation is concerned. The rock colour is of black to dark brown, containing probably fine- to medium-sized quartz grains. Greyish silty layer is also observed within the 'Asphalt rock' (Fig. 9), including shell fossils showing the silty layer deposited at the shallow seabed. This occurrence suggests that the two types of formation of 'Asphalt rock' as follows.

(1) Case 1: Deposition type formation

This is due to the sequential occurrence of Asphalt rock (strata) and surrounding formation. In particular, we can observe intercalated silty layer with shell fossil suggesting the sequential deposition of asphalt and silty layer within asphalt at the seabed. In case, it is reasonable to consider that the source of asphalt was from subsurface to spread the seabed and silty layer, shell having been covered thereafter. This might be happened due to differences of density of asphalt (or asphalt containing sandstone) and lack of asphalt sediments in surrounding deposits.

(2) Case 2: Intrusion type formation

Another possible case of formation is probably by the asphalt intrusion after all sediments have

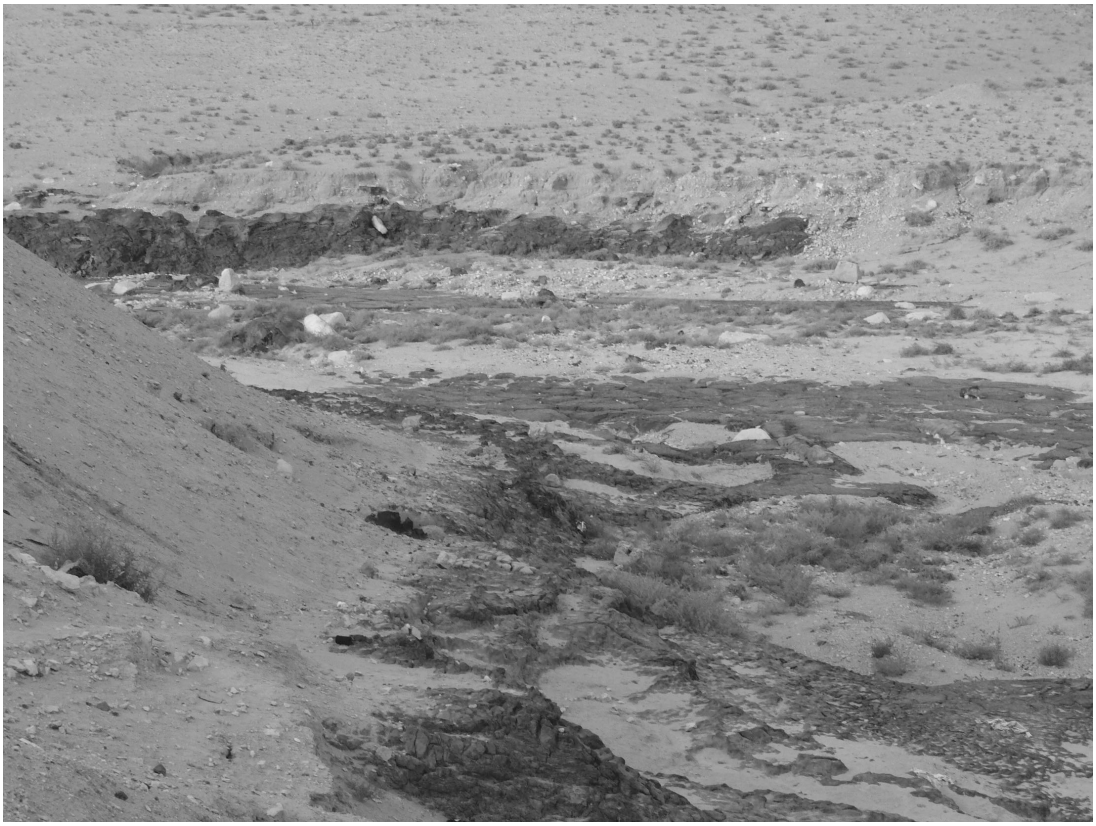


Fig. 8 Asphalt deposit

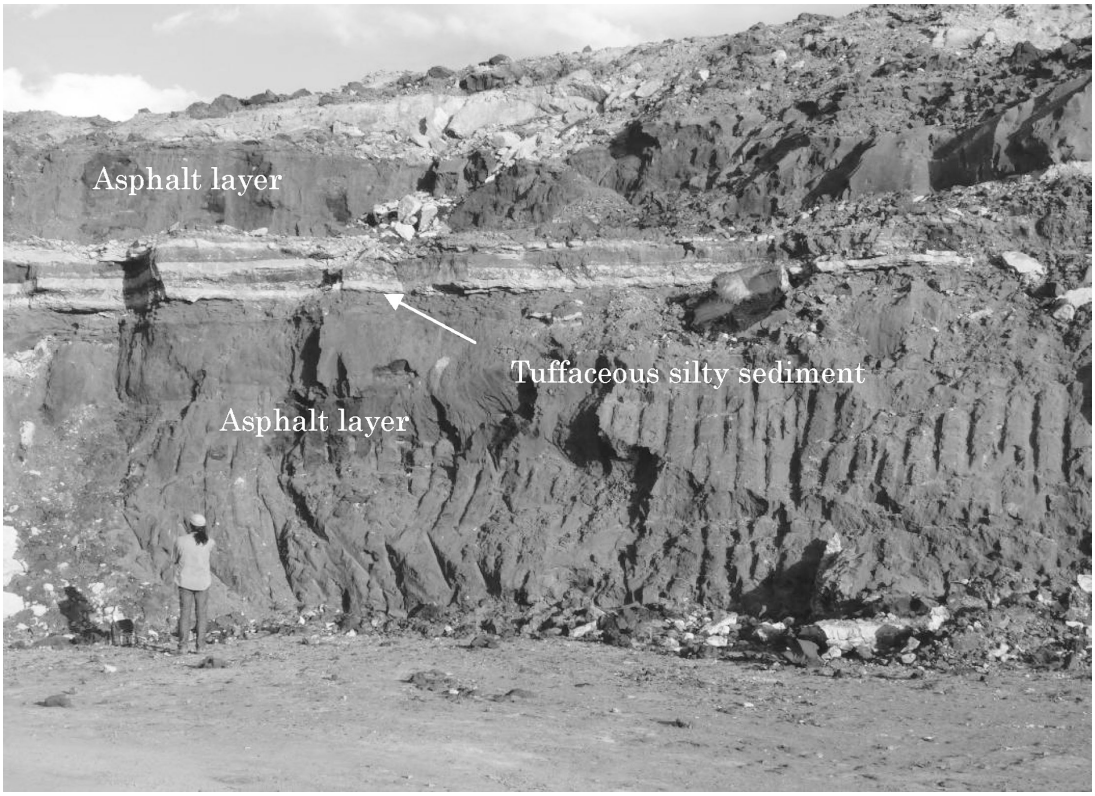


Fig. 9 'Asphalt layer' with tuffaceous silty sediments

been settled. In case, however, it is necessary to expect the high porosity sediments (e.g. sandstone) which behaves as a host rock absorbing penetrating 'asphalt', and high intrusion pressure and/or compaction pressure leading to distribution like a layer in such wide square areas. It is rather difficult, however, to estimate the high compaction pressure in terms of the covered sediments in the situation of present occurrence, i.e. the distribution very near to the surface — Is there enough to supply high compaction pressure by such a thin covered layer, or was it already eroded after intrusion?. Another question arises also. Is there possible to form relatively sharp boundary with intercalated and covered sediments by intrusion? These questions can be solved by ordinary geological mapping and observation of thin-section, etc.

2. Trench excavation in Square 1 of Tell Ghanem al-Ali

Atsunori Hasegawa (Doctoral Course, Graduate School of Humanities and Social Sciences, the University of Tsukuba)

We were able to confirm a lot of remains, such as lines of white mud or stones, to observe the surface of Tell Ghanem al-Ali. Some lines had one or two corners, and the other formed the shape of square (Fig. 10). In the field work of the second season, we made a detailed contour map of Tell Ghanem al-Ali and grasped almost all of its plan. As the result of the making of the contour map, it proved that they clustered on the north and east slopes of the tell in particular. At present, the center of the tell is used as a cemetery of modern people who live in the village of Ghanem al-Ali. Though we could not confirm archaeological remains at the center of the tell, it is highly probable

Fig. 10 Archaeological remains on the surface of the tell

Fig. 11 Strs. 2 and 9 in Area 1 (from the east)

Fig. 12 Strs. 10 and 11 in Area 2 (from the west)

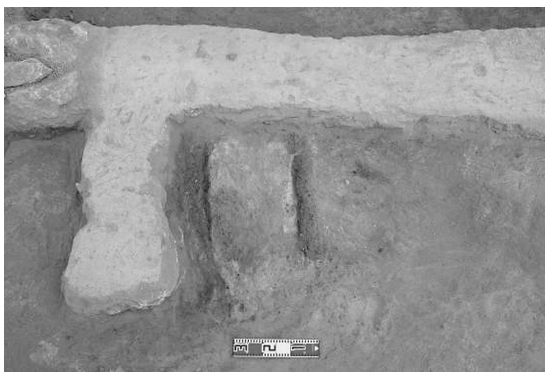


Fig. 13 Hearth in Str. 11 (from the south)

that they existed on the most part of the tell. These remains wait for archaeological investigation.

The objective of excavations in Square 1 is to investigate the construction of remains that were viewed on the surface of the tell and to know the period of the habitation of the tell. To approach this objective, we selected the east slope of the tell where many remains were concentrated. Square 1, 10 m (east-west) × 10 m (north-south), was set on the east slope where we had confirmed a remain square in shape. The trench excavation in this square already started in the third field season in August 2007.

In Square 1, we have revealed three main structure areas as follows:

Area 1: south-west of Square 1 ---- Str. 2 and Str. 9.

Area 2: north-west of Square 1 ---- Str. 3, Str. 10 and Str. 11.

Area 3: south-east of Square 1 ---- Str. 8.

The architectural foundations of these structures were identified with basic walls running along the north-south and east-west axes.

Area 1

It had remains mentioned at the beginning of this report. In the third field season in august 2007, we encountered a stone structure (Str. 2) ca.10 cm below the ground as soon as we removed the surface layer. This structure consisted of three walls of stone. North and South walls extended towards the west. East wall extended towards the north and was combined to other walls at both ends. It had been preserved well, and we confirmed 6 rows of stone at least, continuing some 80 cm from the top row downwards. In this season, we identified new walls of stone which formed the shape of "T" (Str. 9) (Fig, 11) towards the east and under the bottom of the south wall of Str. 2. The south wall was located just inside of the south wall of Str. 2 and extended towards the East wall of Str. 2. Other wall was extended toward the north in the middle of the South wall of Str. 9. This wall was attached to the North wall of Str. 2. It was associated with two small rooms. It seems that Str. 9 reused the East and North walls of Str. 2 jointly. In other words, two small rooms along the east-west axis (Str. 9) were reconstructed into one room, expanding toward the south (Str. 2).

Area 2

This area is directed to the north of Area 1. In the third field season, a small structure was confirmed in the shape of rectangle (Str. 3). It is constructed with tuf wall (Fig. 12). In this season, we confirmed a stone foundation below the west wall of Str. 3. On the same level to the north, another stone foundation was identified in the shape of "L". It appears that these two stone foundations constituted the same structure (Str. 10). Just below the level of Str. 10 on the other hand, the tuf walls of the room shaping regular square were identified (Str. 11), which were close to Str. 10. A part of the east wall and the north wall of Str. 11 had stone foundation, but the east and south walls on the whole did not have it. A small hearth was found in the north-west room attached to the north wall (Fig. 13). It seems that the room in Area 2 was reconstructed twice at least. Firstly, the regular square room (Str. 11) was expanded towards the north. Secondly, the rectangle room (Str. 10) was reduced toward the south.

Area 3

This area is to the east of Area 2. The room in the shape of regular square was identified (Str. 8, Fig. 14). It is important that the walls were mainly constructed with mud-bricks, orange and brown in color. At least 5 rows of mud-bricks were confirmed in well-preserved wall (Fig. 15). Except the east wall, walls had stone foundation. The east sections in Area 3 demonstrates that the wall of mud-bricks had been preserved from the surface downwards. We should have dug very carefully on the surface. Inside this room, we collected a cooking-pot ware which was almost complete (Fig. 16).

It seem that both rooms in Areas 1 and 2 had been reconstructed during a short time. And, some

Fig. 14 Str. 8 in Area 3 (from the east)

Fig. 15 East section of Str. 8 (from the west)

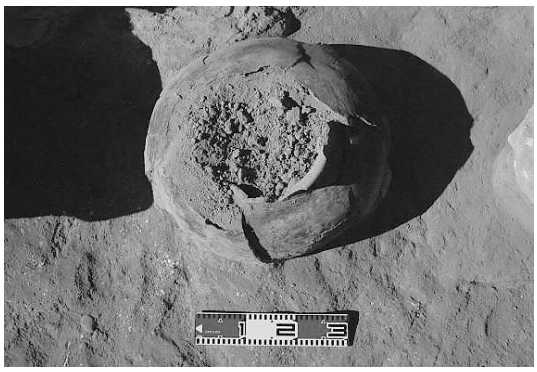


Fig. 16 Cooking-pot ware in Str. 8 (from the east)

parts of the walls were reused after being reconstructed in both areas. All structures mentioned above probably belonged to the Early Bronze Age III. Typical chronological markers in pottery were the metallic ware and the Euphrates ware.

3. Trench excavation in Square 2 of Tell Ghanem al-Ali

Tomoyasu Kiuchi (Doctoral Course, Graduate School of Humanities and Sociology, the University of Tokyo)

Square 2 lies in the northern slope of the *tell*. It measures 4 m by ca. 27 m including 50 cm baulk on each sides. We opened it to see the occupational sequences of the *tell* in the last season, August 2007. In this season, we continued to dig down. To go deeper efficiently, we made this trench stepped. We could identify at least four building levels as below, though it is sometimes difficult to see the building plans because of its narrowness.

Level 1

Last season, we reported two parallel stone walls. This season, we found another parallel wall in the north of these stone walls (Fig. 17). All of them stood in the east-west direction.

The *Tannur* which is also reported in the last season was dug to the bottom. Gravel was paved at the bottom and ash accumulated on it. It was on the west section of the square (Fig. 18).

Level 2

Three adjoining rooms were revealed. Their arrangement is in the north-south direction. All of

Fig. 17 Level 1 wall (left one, other walls are level 2 and 3), from the west (from the south).

Fig. 18 *Tannur* on the west section, from the east

them have entrances facing west. The southernmost and the central rooms have the doorway between them (Fig. 19).

In the south of them, we found another room. It has (a) gypsum floor(s). In part, it sank in a circle (Fig. 20). It sank because it was only 5 mm thick and a *Tannur* existed just beneath it (Fig. 21). This room was built earlier than the three-room building mentioned above and had continued to be used when the three-room building was built (a wall in the east-west direction shared).

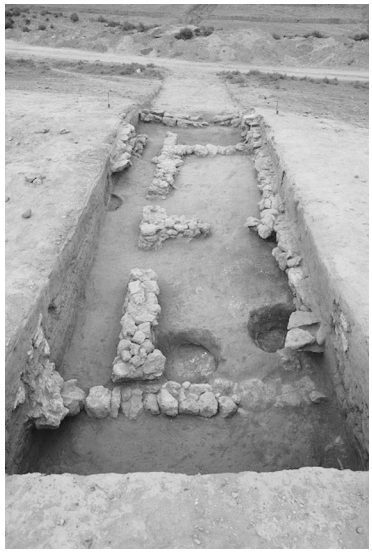


Fig. 19 Three-room building from the south

Level 3

It is very difficult to see the plan of level 3, because some stone walls were reused (and probably removed in part) when the level 2 buildings were built.

The evidence of reuse can be seen on the east section (Fig. 22). The Level 3 wall on the east section in Fig. 22 continues to the north and remains more than 1 m in height. In part, very large stones were used (Fig. 23).

Below the bottom of the southernmost room of the three-room building, level 2, we found two pots (Fig. 24). Inside the one on the west, we found a complete bowl and an animal figurine (Figs. 25 and 26). Below the bottom of the central room, gravel concentration and stones were found (Fig. 27). The former might be the bottom of a *Tannur*, though

Fig. 20 Gypsum floor, from the south. There is a depression in the center

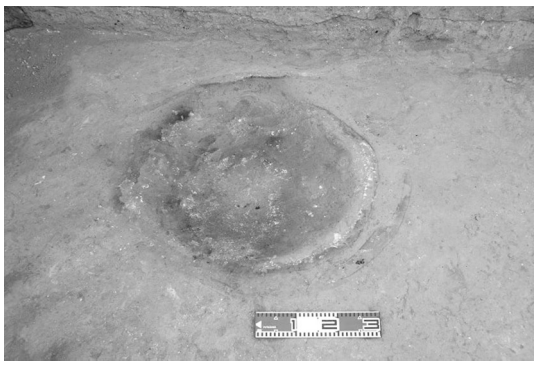


Fig. 21 *Tannur* beneath the gypsum floor, from the south

Fig. 22 East section from the west. Left (lower) one is level 3/2, and right (upper) one is level 2

Fig. 23 Massive wall of level 3/2, from the west

Fig. 24 Two pots below south room of level 2, from the north-west. Inside of right (west) one, we found a complete bowl (Fig.25) and an animal figurine (Fig. 26).

Fig. 25 Complete bowl

Fig. 26 Animal figurine (equid, unbaked)

Fig. 27 Gravel concentration (probably *Tannur*), and Stones below the central room of level 2, from the east

we did not find any upper part of it. The latter might be a pillar or a part of a wall.

Level 4 or lower

We made step at the north of the central room of the three-room building, level 2. As for level 4 or lower, we revealed archaeological traces only in the second step.

Fig. 28 South section of the second step, from the north. The left stone wall is level 3/2 (cf. Fig. 23). The mud brick wall (not removed yet) is on the right side. Every layer is sloping from east (right) to west (left)

Fig. 29 Massive wall (not fully excavated), from the north-east

A mud-brick wall in the north-south direction was found on the south and west sections in the second step (Fig. 28). This wall was surely lower than the bottom of the Level 3 stone-wall and the only feature of level 4 that we found in this season.

Apart from the mud-brick wall, we found another stone wall in the lower part of the trench (Fig. 29). The wall is still to be exposed in the next season. It is, however, difficult to place it in the stratigraphical sequence, even if we reach the bottom of the wall. This is because the wall is buried under surface soil. Its distinctive features are width and direction, with the width measuring more than 2.4 m and lying in the northwest-southeast direction. This wall might have been a part of a city-wall or enclosure for higher part of the *tell*. As mentioned above, all the walls in the upper levels lie in the north-south/east-west direction.

Periods

It is difficult to present the date precisely, because the pottery is still to be studied. Roughly speaking, the four levels range from the Early Bronze (EB) III to EB IVa periods. The upper levels probably date around the early half of the EB IVa, considering the presence of the Black Euphrates Ware and the Smeared Wash Ware as well as the absence of some pottery typical in Squares 3 and 5. The lower levels certainly dates back to the EB III, considering the presence of the Metallic Ware and some typical forms of the pottery of this period (e.g. Vertical-wall with banded rim). In this view, the lower levels probably date to the same period as Square 1.

4. Trench excavation in Squares 3 – 5 of Tell Ghanem al-Ali

Yo Negishi (Doctoral Course, Graduate School of Humanities and Sociology, the University of Tokyo)

Summary of trench excavations of Squares 3 to 5

We started trench excavations in Squares 3-5 at Tell Ghanem al-Ali on November 14th, and completed the works on December 6th. Because they were trial excavations, the size of each trench was planned as 2 × 2.5 m, 2 × 2 m, 1 × 5 m respectively. Squares 3 and 4 were planned to collect the artifacts (esp. ceramics) that were to be dated later than ones from Squares 1 and 2. Excavatiobn in Square 5 was planned to search for the city wall structure in the southern slope of this Tell.

Description of Squares 3 to 5

Square 3

In the first level, we found a pit just under the surface (Fig. 30). A jar found in this pit should be dated to the EB Ⅳ Period based on its features.

In the next level, we found some potteries and other artifacts on the house floor made of plaster (Fig. 31). Among them, the small bottle-like vessel found on the house floor had a zoomorphic feature (Fig. 32). 4 legs and a tail are applied on its side (Fig. 33). This could be an unique example of clay figure in the EB Age. We can expect much more plentiful achievements around this square on the future research.

Fig. 30 Grooved rim jar found in a pit, Square 3

Fig. 31 Pottery fragments scattered on the house floor, Square 3

Fig. 32 Pottery concentration on the house floor, Square 3

Fig. 33 Zoomorphic clay figure from Square 3

Fig. 34 Excavation level reached at 80 cm below the surface, Square 4

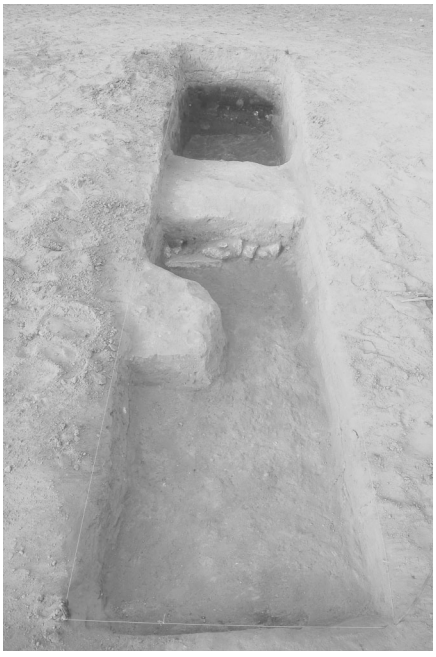


Fig. 35 Level of excavation ultimately reached, Square 5

Fig. 36 Mud wall (*tauf*) and stone walls, Square 5

Square 4

We found thick cultural layers containing ash and animal bones (Fig. 34). Because the typological features of unearthed potteries are a little different from ones of Squares 1 and 2, we can't clarify the detailed archaeological phase which these layers belong to. In result, we couldn't find any structures on the same level, so we decided to stop the excavation on this level.

Square 5

We found some pottery sherds which were dated comparably later than the ones from Squares 1 and 2. At the center of this trench (Fig. 35), we found a probable mud wall structure (*tauf*) and the stone walls just beneath it (Fig. 36). While there is no direct evidence that these structures were related to city wall, we can confirm some structures on the southern slope of this Tell at least. We decided to stop the excavation on this level.

5. Water-floatation of soil samples from Tell Ghanem al-Ali

Ken-ichi Tanno (Research Institute for Humanity and Nature, Kyoto)

Five soil samples were collected this season for water-floatation. Out of them 3 were from potteries, 1 from tanor and a simple ashy soil (listed below).

The samples Sq.2-bask. 25 and Sq. 2-bask. 40, both from pottery and with some visible fragments of charred plants, were used for the water-floatation collecting system. The former shows some large Leguminosae seeds and 5 lower jaws of probably small rodents. The Leguminosae seed may belong to *Prosopis* sp. which is often related to pastoralism due to the toxic nature; animal do not eat this plant. The latter sample includes various sizes of barley seeds, implying variations of its cultivation status. These barleys are most probably cultivated because the natural habitat of this plant is far away from TGA site.

These observations are temporal results, drawn by naked eyes, and further study must be carried out using microscope.

Soils samples corrected in this season are:

1) Square 2-basket 18 (20071114 corrected by Kiuchi), 2.7 littres, ash from bottom of tannor
2) Sq.2-bask.25 (20071114 corrected by Kiuchi), 8.0 littres, inside of a cooking pot
3) Sq.2-bask.40 (20071117 corrected by Kiuchi), 4.5 littres, inside of a pottery
4) Sq.2-bask.43 (20071115 corrected by Kiuchi), 0.5 littres, ash from bottom of a pottery
5) Sq.3-bask.3-Str.1 (20071115 corrected by Negishi), 0.5 littres, ash

6. A Short History of Ganam al-Ali Village

Akira Tsuneki（Graduate School of Humanities and Social Sciences,
the University of Tsukuba)

Tell Ganam al-Ali is located just northeast of a modern village named Ganam al-Ali. The tell surface has been used as a graveyard by the villagers of Ganam al-Ali. The villagers also make other four cemeteries on the slope of the river terrace behind the village. Therefore, the author is interested in the relationship between the cemeteries and the human groups of the village. For understanding this relationship, the author started to gather the information from the villagers about the history of Ganam al-Ali village. This report presents a short history about the Ganam al-Ali Village.

Ganam al-Ali village is located on the right bank of the Euphrates about 50 km downstream from the city of ar-Raqqa. The village is situated under the cliff of the river terrace, three kilometers away from the Euphrates River modern stream. It belongs to *Nahia* Sabha and *Mohafaza* ar-Raqqa.

The village name, Ganam al-Ali, came from a person who lived around two centuries ago in Halabiya Zalabiyah, about 50 km downstream along the Euphrates. The villagers of Ganam al-Ali believed that all of them are the descendants of that man. The story of his descendants will be discussed later. People of Ganam al-Ali belong to Subeat *Ashira*, and Bu-Shaba'an *Qabila*. The present Ganam

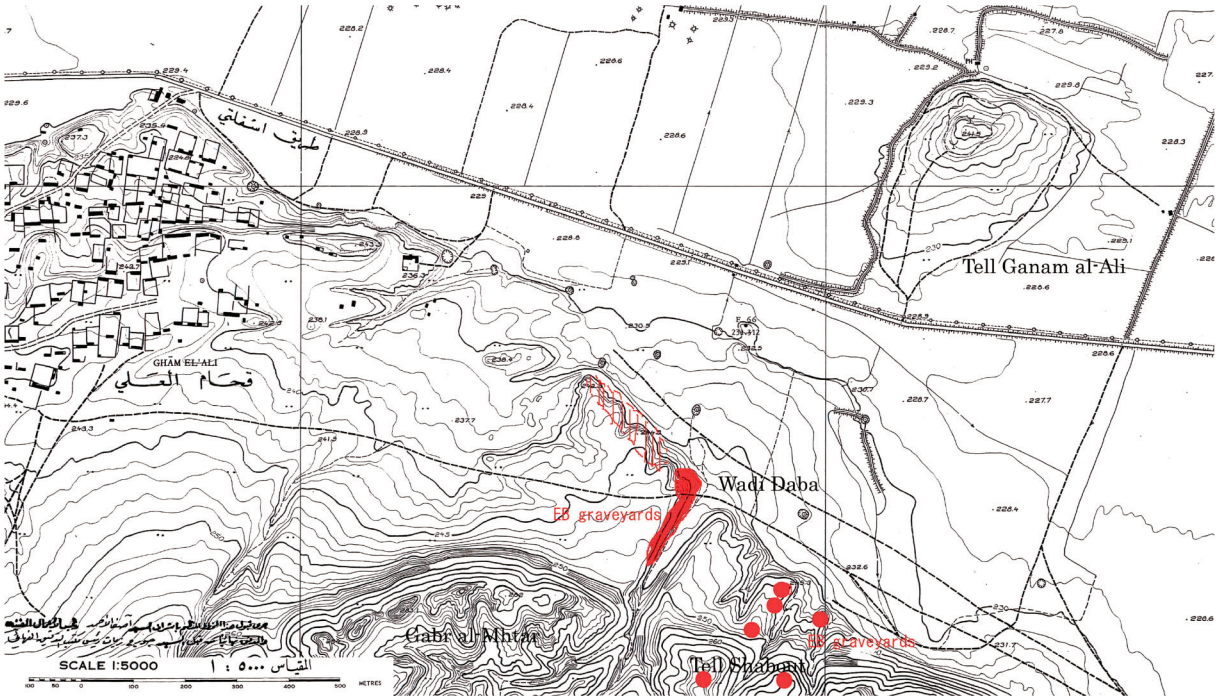


Fig. 37 Tell Ganam al-Ali and the EB cemeteries

al-Ali village has only sixty years history and one of the typical newly established settlements along the Euphrates. There are about 700 households and c.10,000 inhabitants in this village now. The major subsistence of the villagers is agriculture and stock farming. Cotton, wheat, sugar beet and vegetables are the main crops of agriculture. The farmland of the village covers 8,000 donoms (c. 800ha). Sheep pasturage is also important subsistence, and villagers breed about 40,000 sheep in total.

Early Bronze Age Cemeteries

Though the history of the present Ganam al-Ali dates back only 60 years, we can observe the archaeological sites in and around the present village. As these archaeological sites date back at least to the Early Bronze Age, it can be said that a history of Ganam al-Ali can date back to the same period at least. One of the EB site is, of course, Tell Ganam al-Ali. The details of the site are discussed in elsewhere of our report. Another EB site is a cemetery near the cliff of the river terrace. The small hills on the river terrace behind the eastern end of the village are called Gabr al-Muftar (Grave of a judge in Arabic) and Tell Tantour Shabout (Shabout is a name of man, but a fish-shaped mound in meaning). Between these hills, a small wadi, named Wadi Daba, flows toward the north. We can observe a large number of shaft graves on the western slope of Wadi Daba (Fig. 37).

The entrance of the shaft graves shows a rough square shape, and a small horizontal chamber connecting with the shaft can be observed in some better preserved graves (Fig. 40). However, almost all of the graves seem to have been robbed seriously. Some EB potsherds, including so-called Euphrates Ware, could be collected in and around the entrance of the shaft graves (Fig. 41). Local people taught us that a cemetery of shaft graves continued from Wadi Daba to the northeastern slope of Gabr al-Muhtar. However, the slope of Gabr al-Muhtar was destroyed by the expansion of the village, and the old graves there were shaved off completely.

A series of the Early Bronze Age graveyards are also observed on the cliff of the river terrace behind Ganam al-Ali Village. The graveyard concentration was observed especially on the river terrace called

Fig. 38 EB graves at Wadi Daba (1)

Fig. 39 EB graves at Wadi Daba (2)

Fig. 40 Entrance of one EB shaft grave

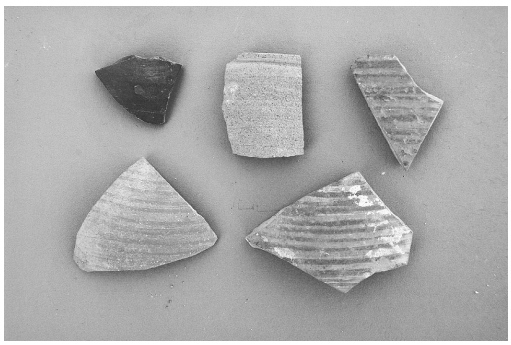


Fig. 41 Potsherds found at Wadi Daba

Tell Shabout (Fig. 42), east of Wadi Daba.

On the flat land behind the cliff, many small hills, originated from the gypsum-based rock and soil, continue to the south. The EB people dug many shafts into such hills for the construction of graves, and each hill has dozens of graves (Fig. 43). Large numbers of graveyards were visible from the cliff of the river terrace to the inside flat land, c.1.5km south of the cliff (Fig. 44). Shaft graves are the major type, and some have a square-shaped entrance (Fig. 45). A stone-chambered type was

Fig. 42 Distant view of Tell Shabout

Fig. 43 One graveyard in Tell Shabout

Fig. 44 Many graveyards visible from the cliff of Tell Shabout

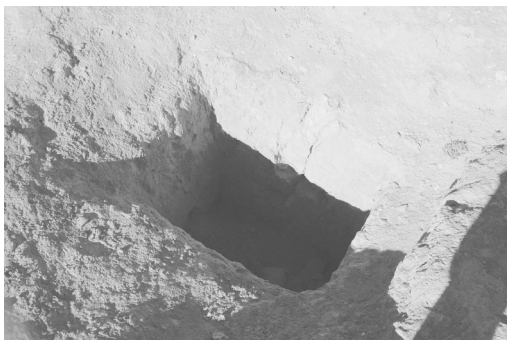


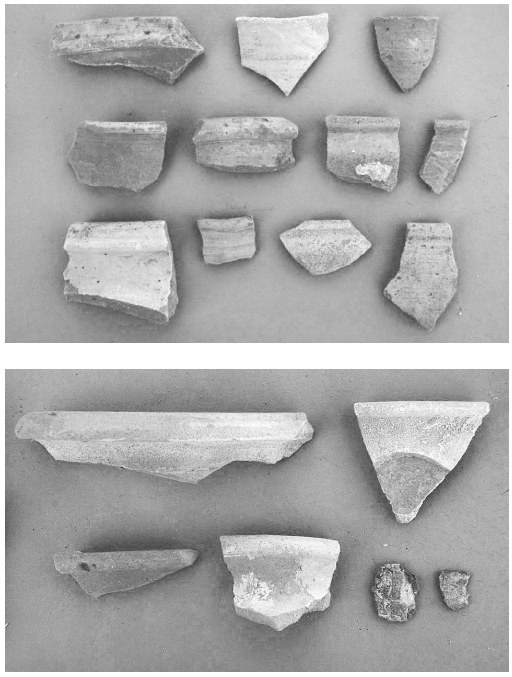
Fig. 45 Shaft grave with a square entrance

Fig. 46 Stone chambered grave

also observed among the graves (Fig. 46). Almost all of the potsherds collected in and around the shaft graves are typical EBIII and EBIV varieties (Figs. 47, 48), and they are very similar to those discovered from the excavations at Tell Ganam al-Ali.

It is supposed that the shape and structure of Tell Shabout graves are similar to those of the shaft type grave, with or without a connecting horizontal chamber, and stone chambered grave, excavated by the German mission at Abu Hamed, c. 1.5 km south of Ganam al-Ali (Falb et al. 2005).

The excavations at Abu Hamed produced a variety of graves, including shaft grave, shaft grave with connecting chamber, stone-chambered grave, and brick-chambered grave, and all of the graves date to EBIII and EBIVA periods. It is quite certain that Tell Shabout graves belong to the same categorical structure in the same period. In fact, the site of Abu Hamed and a series of Tell Shabout graveyards adjoin each other, and we can suppose that Abu Hamed cemetery was the southernmost part of the huge EB memorial park of Tell Shabout.



Figs. 47, 48 Potsherds and bronze fragments collected from Tell Shabout graveyards

It can be also supposed that the EB graveyard of Wadi Daba was the northernmost part of the same memorial park, although the collected potsherds there indicate a little bit different periods within the Early Bronze Age. So, who made a large number of graves in the huge memorial park from Wadi Daba through Tell Shabout to Abu Hamed? The most probable candidate was the inhabitants of Tell Ganam al-Ali. Because our excavations at Tell Ganam al-Ali have so far demonstrated that the EBIII and the EBIVA periods were one of the main occupational layers there. The distance from Tell Ganam al-Ali and Wadi Daba cemetery is less than 500 meters, and Wadi Daba is the nearest river terrace from Tell Ganam al-Ali. Tell Shabout was the next to Wadi Daba, and Abu Hamed was the other next to Tell Shabout. Therefore, it is quite probable that the Early Bronze Age cemetery of these areas had been constructed by the habitants of Tell Ganam al-Ali.

Modern History of Ganam al-Ali Village

As mentioned above, the village name of Ganam al-Ali came from the man's name, who lived in Halabiya Zalabiyah around two centuries ago. It is said that his family met some agricultural land problems and decided to go out from Halabiya Zalabiyah. His five sons, Mohsen, Diab, Mohamad, Fsein, and Ajil, migrated from Halabiya Zalabiyah, through all their fortunes, then they finally settled at the river bank near modern Ganam al-Ali. These five sons had their own sons as follows.

Mohsen; al-Qoran
Diab; Hameidat, al-Kalash, al-Qoran
Mohamad; Hamad al-Ali
Fsein; al-Habib, al-Mardouf, Halaf-Abdoula
Ajil; al-Shabhar

Though the descendants of al-Qoran, the son of Mohsen, left the village about forty years ago, other descendants of eight sons continue to live together and consist of basic families in Ganam

al-Ali village. Another family, al-Subeat, joined them later. Al-Subea was one of nephews of Ganam al-Ali. Therefore, nine basic big families are living in Ganam al-Ali village. The flood of the Euphrates damaged the old Ganam al-Ali village near the Euphrates stream, and the villagers moved the village near to the cliff of the river terrace, i.e. the place of the present Ganam al-Ali village in 1947. It is said that around 100 households moved to the present Ganam al-Ali village. Since then, Ganam

Fig. 49 A view of the present Ganam al-Ali village from the behind cliff

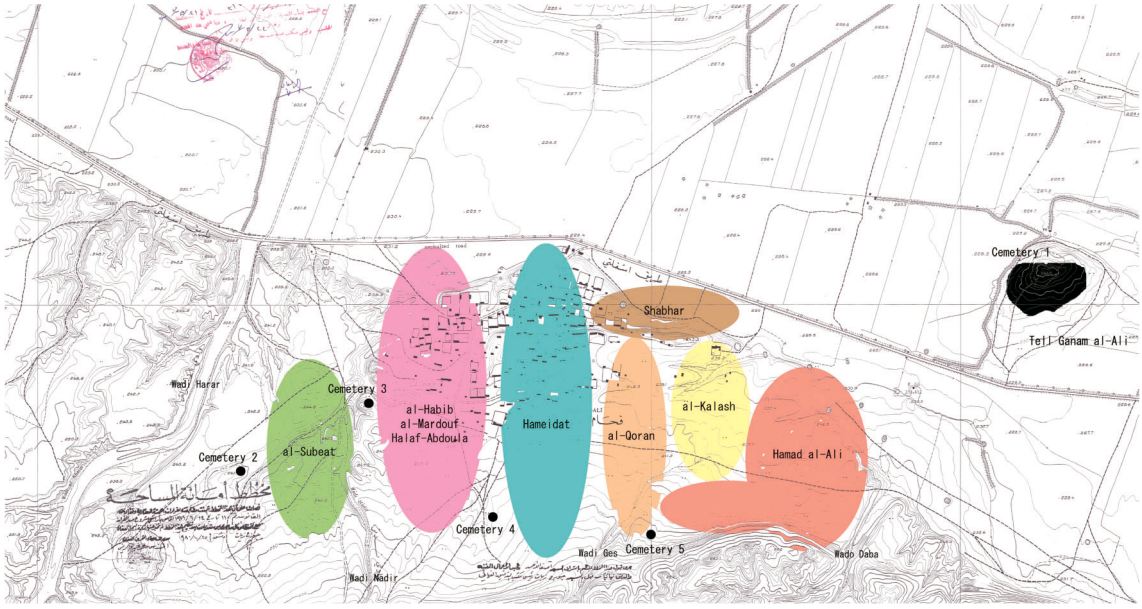


Fig. 50 Location of each big family's habitation area and its cemetery at Ganam al-Ali

al-Ali village has continued to develop, and at present it consists of c.700 households, having c. 10,000 population, as mentioned above (Fig. 49).

Though there are nine big families in the present Ganam al-Ali village, all of the present villagers belong to the same tribal group. *Ashira* is al-Subeat, the name of father of Ganam al-Ali, and he belonged to ninth former generation ascending from the present. *Qabila* is Bu-Shaba'an, following the name of much older ancestor.

The distinction of big families may affect the daily life of the villagers of Ganam al-Ali. For example, the habitation areas have been roughly regulated based on the big families. The biggest family, Hameidat, occupies the central part of the village, and each big family shares different part of the village (Fig. 50). Al-Subeat, a sole big family originated from non-direct brotherly descendants and joined later, shares the edge of the village near Wadi Harar.

The most clear difference can be visible in the location of cemeteries.

The first and sole cemetery for Ganam al-Ali villagers was Tell Ganam al-Ali, located 1 km east of the village beyond the highway (Fig. 51). The surface of the tell have been covered with many modern graves, constructed by villagers of all big families. However, after 40 years from the foundation of the village, some big families began to make their own cemeteries beside their habitation

Fig. 51 Modern cemetery (No.1) on Tell Ganam al-Ali

Fig. 52 Modern cemetery (No.2)

Figs. 53–55 Modern cemeteries (No. 3, No. 4, No. 5)

area in the village. Nowadays, there are five cemeteries, including Tell Ganam al-Ali (no. 1), for Ganam al-Ali villagers. Cemetery near Wadi Harar (no. 2) is for al-Subeat family (Fig. 52). One near Wadi Nadir (No. 3) is for al-Habib, al-Mardouf and Halaf-Abdoula families (Fig. 53). One (No. 4) is for Hameidat and al-Qoran families (Fig. 54). One near Wadi Ges (No. 5) is for Hamad al-Ali and al-Kalash families (Fig. 55). Other families still continue to use Tell Ganam al-Ali as their cemeteries. Based on these occupational and cemetery regulations, we can recognize that the old family kinships roughly survived until today in Ganam al-Ali village.

تقرير موسم العمل الرابع للبحث الأثري للبعثة الأثرية السورية اليابانية العاملة في منطقة جبل البشري:

بدأ موسم العمل الرابع للبحث الأثري السوري الياباني المشترك لموقع البشري في الثامن من تشرين الثاني 2007 ، و انتهى في الثاني عشر من كانون الأول 2007 .

ونشكر الدكتور بسام جاموس المدير العام للآثار و المتاحف ، و الدكتور ميشيل مقدسي مدير التنقيب و البحث في المديرية العامة للآثار و المتاحف و المشرف المستشار لهذا البحث المشترك ما قدموه لإنجاح هذا الموسم الثاني من العمل

يدير الجانب السوري انس الخابور والجانب الياباني: كاتسوهيكو اونوما

في موسم العمل هذا :

تابعنا التنقيب في المربعين (1-2) من تل غانم العلي الذي بدأناه في آب الماضي ، و افتتحنا المربعات (3-4-5) لمعرفة الاستراتيغرافية الأثرية للموقع بشكل مفصل ، كما قدمت أبحاث النبات الأثرية فكرة عن أنواع الحبوب التي عاش عليها السكان القدماء لتل غانم العلي.

و سنوضح النتائج الأولية للأعمال المنجزة خلال هذا الموسم:

1- المسح الجيولوجي و الجغرافي :

(ميتسو هوشينو ، تسويوشي تاناكا ، توشيو ناكامورا ، هيديكازو يوشيدا ، تاكيشي سايتو، كازوهيرو تسوكادا ، يوسوكي كاتسورادا)

تصور عن الجزء القاعدي لتل غانم العلي :

من خلال مربع (1-1) م بعمق (1،5) م في السفح الغربي لتل غانم العلي ، ثبت وجود خمس طبقات استراتيغرافية على الأقل ، احتو طمي ترابي ، تراب متخلخل ، طمي من القاعدة للقمة ، قطع فخار مكسر و أجزاء فحمية من الطبقة الرملية المتخلخلة ، نوى صوانية .

الطبقات الثلاث الأولى عموما احتوت الكسر الفحمية حيث كان الإشغال السكني للتل.

الشرفات النهرية و رواسبها :

تعرفنا على أربع أو أكثر من الشرفات النهرية ، و يتوضع تل غانم العلي و تل حمادين على الشرفة الأولى ، و تشير رواسب الشرفات النهرية إلى أنها تعود إلى عصر البلستوسين، و هذه الشرفات كالآتي :

أ- الشرفة الأولى : ترتفع (230) م عن سطح البحر، و (1-2) م عن السهل المؤلف من قنوات حديثة و بحيرات هلالية و مستنقعات.

رواسبها رمل و حصى و رمل طيني ، كما وجد ت جذور القصب و الفحم فيها المفيد في تأريخ بدايات تل غانم العلي و تل حمادين .

ب-الشرفة الثانية: ترتفع (237) م عن سطح البحر و (7) عن الشرفة الأولى ، رواسبها حصى و رمل و جص صافي ، كما وجد فيها الإسفلت

ت-الشرفة (2،5) : ترتفع (240) م وهي غامضة قد تنتمي للشرفة الثانية و رواسبها من الرمل.

ث-الشرفة الثالثة : ترتفع (242) م و رواسبها رمل و حصى

ج- الشرفة الرابعة : وترتفع (250)م و هي الشرفة الأقدم في منطقة البحث ، رواسبها لم تدرس بعد.

تأريخ العينات بواسطة الكربون 14 :

تم اخذ عينات فحمية من موقع غانم العلي ، و عينات أخرى من شرفات نهر الفرات ستقدم معلومات عن تأريخ الموقع .

حدوث الصخر القيري (الإسفلتي):

يتوزع الصخر الإسفلتي بسماكة حوالي (10) م في عدة كيلومترات مربعة ، و يحتوي على كوارتز متبرغل متوسط الحجم ، بالإضافة إلى طبقات طمي طيني ضمنه ، ووجود أصداف متحجرة .

وحدوث مثل هذا الصخر الإسفلتي يفترض أن يكون :

إما ***ترسب متشكل*** : حيث يلحظ طبقة طمي مع أصداف متحجرة ، مما يدل على أن مصدر الإسفلت هو باطن قاع البحر المتضمن الأصداف .

أو ***ترسب تطفلي*** : بعد استقرار كافة الرواسب لعبت الرواسب العالية المسامية (الحجر الرملي مثلا) دور الصخر المضيف و مع الضغط العالي في مناطق عريضة في مناطق قريبة جدا من السطح حدثت هذه التشكيلات.

و هذا التشكل الإسفلتي ينبغي دراسته بالرجوع إلى الخرائط الجيولوجية .

2- التنقيب الأثري في المربع الأول في تل غانم العلي :

اتسونوري هاسيكاوا

تم وضع خريطة كونتورية للمناسيب مفصلة لتل غانم العلي ، أكدت تمركز البناء في الانحدار الشمالي الشرقي للتل خاصة ، و كانت أبعاد المربع (10*10) م ، وهو استمرار لعمل آب الماضي ، تم تميز ثلاث مناطق بالمربع 1 كالآتي :

الأولى : بناء حجري قريب جدا من السطح على بعد 10 سم

الثانية : إلى الشمال من المنطقة الأولى كشف في الموسم السابق عن بقايا بناء صغير مستطيل من الحجر المسامي ، و موقد صغير

الثالثة : إلى الشرق من الثانية ، بناء مربع نظامي من اللبن ، مؤلف من خمسة مداميك على الأقل ، ما عدا الجدار الشرقي كان من الحجر ، احتوى بداخله على قدر طبخ فخاري بحالة جيدة

كل الدلائل تشير إلى أن الموقع يعود إلى عصر البرونز المبكر 3 من ناحية الفخار المعدني و فخار الفرات.

3- التنقيب بالمربع 2 غانم العلي :

توموياسو كيوتشي

تم فتحه إلى السفح الشمالي للتل ،بأبعاد (4*27) م ، لمعرفة تتابع السكن بالتل، و كان خندقا متدرجا و لم يكن تميز المباني سهلا نظرا لضيقه.

المستوى الأول : في الموسم السابق لحظنا جداران حجرية متوازية و هذا الموسم جدار آخر إلى الشمال منهما ، و التنور المكتشف في الموسم السابق وصلنا حتى قاعدته حيث كانت الأرضية من الحصى و الرماد متكوما عليها.

المستوى الثاني :بناء من ثلاث غرف متصلة باتجاه شمال جنوب ، كلها كان لها مدخل يواجه الغرب ، الغرف الجنوبية و المركزية كان لها أبواب فيما بينها.

إلى الجنوب منها وجدنا غرفة أخرى ذات أرضية جصية فيها بالوعة
المستوى الثالث:استخدمت حجارة ضخمة في بناء جدرانه ، تم العثور على آنيتين بداخل احدهما و جدنا زبدية فخارية و دمية حيوانية .
المستوى الرابع : إلى الشمال من الغرفة المركزية للبناء المكون من ثلاث غرف في المستوى الثاني ، فيها جدار من اللبن و جدار حجري
وهذا قد يكون جزء من سور المدينة كونه اعرض من (2،4) م
الفترات الزمنية :
من الصعب إعطاء تأريخ دقيق كون الفخار لا يزال قيد الدراسة و نرجح انه يعود إلى فترة البرونز المبكر 3-4 ، و ذلك استنادا إلى وجود فخار الفرات الأسود و غياب الفخار التقليدي بالمربع 3 و 5 ، المستويات الأسفل تعود إلى فترة البرونز المبكر 3 لوجود فخار معدني مميز لتلك الفترة .

4- التنقيب بالمربعات 3-4-5 في تل غانم العلي :

يو نيغيشي

بدأنا الحفر بهذه المربعات في 14-11-2007 و لغاية 6-12-2007 و كانت أبعادها كالآتي : 2*2،5 – 2*2 – 1*5 حسب ترتيبها 3-4-5
المربع 3 : وجدنا فيه آنية لها شكل حيواني يؤرخ على فترة البرونز المبكر 4.
المربع 4: عدة سويات حضارية تحوي رماد و عظام حيوانات
المربع 5 : وجدنا قطع فخارية احدث من مكتشفات المربعين 1-2 ، بينما لم يتم العثور على ما يدل انه يعود إلى سور المدينة.

5- لمحة عن تاريخ تل غانم العلي:

اكيرا تسونيكي

يقع إلى الشرق من الرقة ب (50) كم يتبع لناحية السبخة محافظة الرقة، يوجد فيه حوالي (700) عائلة أي حوالي (10000) نسمة يعيشون على الزراعة و تربية الأغنام .
و قد تأسست القرية الحالية عام 1947 و أصول سكانها الحاليين تعود إلى هجرة جدهم منذ قرنين تقريبا من منطقة حلبية و زلبيا مع أولاده الخمسة و تعايشوا مع القبائل المجاورة ، و كان مكان القرية القديمة على الفرات لكن بعد فيضانه انتقلوا إلى الموقع الحالي .
مقابر البرونز القديم :
يجاور موقع غانم العلي مقابر يسود فيها نمط المقابر العلوية المدخل في مواقع وادي دابا و تل شبوط ، و نوع آخر ذات مدخل مربع ، و قد عملت سابقا بعثة أثرية ألمانية في مقابر أبو حمد المجاورة ، و هذا التمركز المجاور لتل غانم العلي لمقابر أبو حمد ووادي دابا و تل شبوط و قبر المختار ربما يشير إلى أنها كانت مدافن لسكان تل غانم العلي القدماء

مدير الجانب الياباني	**مدير الجانب السوري**
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This journal is of an annual issue, designed to cover various studies of ancient Western Asia. It is an institute journal, but any external contributor will be welcome. The adoption of article shall be left to the discretion of the editorial board. The deadline for submission is the end of October.

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1. The manuscript should be typed on one side only of A-4 size paper. To be accompanied with the computer disk is strongly preferable.
2. On the front page, to the exclusion of the text, the title of article should be written as well as the name, address and position of author(s).
3. Please be sure to prepare necessary drawings and tables as digital files in the computer disc, or on separate papers one by one (less than 23.5×16.0 cm each in size of completion of printing), with explanations and consecutive numbers respectively, and compile them aside from the text. In addition, designate, on the margin of the text, where each one should be inserted.
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   [Childe 1956: 30–32]
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編集後記（editorial postscript）

Six reports are presented in this volume of *Al-Rāfidān*, that are fruitful results of research undertaken in Syria (Jazira and East Mediterranean coast), Jordan and Greece. These regions belong to West Asia and its neighbouring regions, and are covered by *Al-Rāfidān* for publication of research results. It is sad that no articles associated with Iraq are included in this volume, for the situation inside that country seems to be still far way from recovery.

(Katsuhiko Ohnuma)

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